



# The Conglomerate

Newsletter of the Baltimore Mineral Society

[www.baltimoremineralsociety.org](http://www.baltimoremineralsociety.org)

Volume 13, No. 3

March, 2018

## Fantastic Pakistan Minerals II

The gremlins attacked us last month and as a result we could not show the video that was planned. We'll try again at the upcoming March 28<sup>th</sup> meeting.

We've all seen those fantastic mineral specimens which have come out of Pakistan—garnet, tourmaline, aquamarine, topaz, and many others -- often in mind-boggling combinations. Most of us can't afford their price tags (containing too many zeroes), but all of us can appreciate their beauty. This month, we'll be viewing a talk titled "Pakistani Gem Crystals," given by Dr. Peter Lyckberg at the 2017 Dallas Mineral Collecting Symposium. He has been working with sources in the Northern District of Pakistan since 1985 and was the first Westerner to visit the gem mines at high altitude in the Haramosh Mountains. His account of his personal experiences makes for a fascinating story.

The meeting will be hosted by Chris Altizer and Bernie Emery and will be held at the Natural History Society of Maryland beginning at 7:30 pm. For directions visit our website ([baltimoremineral.org](http://baltimoremineral.org))



Joe McSharry, Bernie Emery, and Jim Hooper talking rocks. Photo: M. Seeds

## Editorial: Sharing With Rocks

*Mike Seeds*

We like to share our hobby with others, and we do that by giving programs at club meetings and writing articles for *The Conglomerate*. But there is another way you could share. Bring some rocks.



Not everyone can go collecting. Some are limited in mobility and some are limited in time, so not everyone can go dig on Saturday afternoon. If you are a digger, the odds are strong that you have buckets and boxes of rock in your basement or garage. Why not bring a few rocks to a BMS meeting as giveaways. Interested club members can pick out a piece, and if they have questions about what they see, they can ask the digger who recovered them.

Sharing some of your rock benefits everyone. It might even free up some space in your basement for more rock.

## In Commendation of ye Microscope

Of all the Inventions none there is Surpasses the Noble Florentine's Dioptrick Glasses For what a better, fitter gift Could bee in this World's Aged Curiosity. To help our Blindnesse so as to devise a paire of new and Artificial eyes By whose augmenting power we now see more than all the world Has done Befoe.

Henry Powers  
1664

## Baltimore Mineral Society

The BMS was established in order to allow its members the opportunity to promote the study of mineralogy and to act as a source of information and inspiration for the mineral collector. We are members of the Eastern Federation of Mineralogical Societies and affiliated with the American Federation of Mineralogical Societies.

Meetings are held the 4th Wednesday of each month (except November, December, June & August) at the Natural History Society of Maryland beginning at 7:30 p.m. Visit the club website <[www.baltimoremineralsociety.com](http://www.baltimoremineralsociety.com)> for directions.

Yearly dues are \$10 for individual members and \$15 for family memberships. Send payment along with your name, list of family members, if applicable, address, phone and e-mail to: BMS, PO Box 302; Glyndon, MD 21071-0302.

### Officers:

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Vice President..... Chris Altizer  
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Brad Grant                         Steve Weinberger

Conference Chair                 Mike Seeds

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### Write for "The Conglomerate"!

Send news, announcements, comments, observations, or articles to <[mseeds@fandm.edu](mailto:mseeds@fandm.edu)>. No e-mail? Hand in your submission at a meeting.

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## President's Message

by Al Pribula, BMS President



I hope that all of you survived the windstorm and its associated power outages a couple of weeks ago. Linda and I were without power for a week while BGE dealt with the downed tree which caught on fire and disabled the power lines in our neighborhood. Being without power makes you realize just how dependent your life is on those little electrons moving through the wires and how thankful you should be for the wonders that electricity brings to our lives.

My apologies to all who attended the February meeting for the "equipment problem" which prevented the showing of the program on Pakistani Gem Minerals. We're going to try again this month to show that video. I'm pretty sure that you'll agree that it was worth the wait to see it.

I was thinking the other day about good advice. Some of the best mineral-related advice that I ever received was from a person that I never met (who, indeed, was already in "that great rock pile in the sky" before I became interested seriously in minerals). For many years, Micromount Hall of Fame Member Neal Yedlin wrote a column on micromounting and microminerals in (I believe) Rocks and Minerals magazine. Two of his maxims which I heard second-hand have stuck with me and stood me in good stead (at least, once I heard them). The first was "fit the box to the specimen, not the specimen to the box." Early on, I occasionally tried to "fit the specimen to the box," sometimes with results that were, to say the least, far from optimal. I learned that a micromount is not defined by its size, but rather by the fact that you needed magnification to fully appreciate the specimen. My mentor Ed Quick had specimens that he called by the seemingly oxymoronic term "large micromounts." These were specimens that needed magnification to appreciate their beauty, but which would have suffered had he tried to break them down small enough to fit in a standard micromount box. I wish that I had learned that idea sooner.

The second of Neal's maxims, which was the closing line of each of his columns, was "buy and use a good mineral book." I have always been a "book person," so that advice fell on receptive ears. With the advent of the Internet, his advice is a bit out of date, but its implicit message is still valid and will remain so forever. Do your homework, learn all you can about the subject, and use that knowledge to aid in your enjoyment of the hobby. On many occasions, the knowledge I had gained from reading (or, today, from consulting Mindat and other on-line sources) has served me in good stead by allowing me to enjoy my collection more fully and, occasionally, to save me money because it led me to forego purchasing a specimen which "just didn't look right," or to allow me to get a bargain on a specimen which the seller had undervalued because they didn't realize the true value of what they had.

I hope to see all of you at the next meeting, and hope that all of you have received (and heeded) any good advice you have received from your "mineral mentors."

Al

## Minutes From our Last Meeting

by Jake Slagle, Secretary

President Al Pribula called the February 28<sup>th</sup> meeting to order at 7:38 p.m. Minutes of the previous meeting were approved by consensus. Treasurer Carolyn Weinberger announced that the Society was solvent and made a final plea for dues to be paid.



Unfinished Business: None

New Business: None

Field Trips: Bob Eberle noted that he would be looking further out into the countryside than previously, particularly in Western Maryland, for sites where field trips could be arranged. He stated that he expected to be able to report on various quarries at the April meeting.

### Announcements:

Lynn Emery reminded of the Chesapeake Gem and Mineral Society auction on March 9 as well as its Annual Gem and Mineral Show on May 19.

Al Pribula also noted the upcoming Delaware Mineral Society Show in Wilmington on March 3 and the Montgomery County Gem, Mineral, and Fossil Show in Gaithersburg on March 17, 18.

Al announced that as acting curator of minerals at NHSM, he has encountered a number of minerals in the basement without labels specific to species and locality. He noted that at future meetings, he would be bringing specimens up for input from BMS members regarding identification.

### Mineral of the Month:

This month it was magnetite. Jim Hooper, Phil Greenberg, Mike Seeds, Al Pribula, and Steve Weinberger all had specimens to show.

The break began at 8:10. Thereafter, a program, which was to be from a DVD at the Dallas Mineralogical Symposium did not happen due to technical difficulties.

Respectfully submitted,  
Jake Slagle: Secretary

## Mineral of the Month

by Steve Weinberger

### Pyromorphite— $Pb_5(Po_4)_3Cl$

Pyromorphite is a member of the apatite supergroup. The structure of its formula varies depending on the reference you use and the date at which the book was published.



Pyromorphite  
Bunker Hill Mine  
Coeur D'Alene District  
Shoshone Co. ID

Photo: R. Lavinsky, i-Rocks.com

Its crystals form in a hexagonal outline and are usually barrel-shaped or as crusts or aggregates. The color is generally green or yellow-green, but can be grey, brown, or orange. Luster is greasy to adamantine, streak is white to pale green. Hardness is 3.5-4; density is 6.7-7.1

The name comes from the Greek, *pyr*, "fire" and *morphe*, "form" because of the fact that when melted, it takes a particular crystal shape.



Pyromorphite  
Les Farges Mine  
Limousin, France

Photo: R. Lavinsky, i-Rocks.com

Pyromorphite is a secondary mineral formed from oxidized lead-containing ore veins and can be associated with cerussite, smithsonite, hemimorphite, anglesite, vanadinite, wulfenite, and mottramite.

Common locations for pyromorphite include Maine, Pennsylvania, Idaho, Mexico, Czech Rep., Germany, France, Bulgaria, Spain, England, China, and Australia (check references for specific locals.)

You can generally find examples of pyromorphite at most mineral shows; some, even at reasonable prices.

### References:

- Back, Malcolm E. *Fleischer's Glossary of Mineral Species*. 2018
- Bernard, Jan H. and Jaroslav Hyrsl. *Minerals and their Localities*.
- Sinkankas, John. *Mineralogy for Amateurs*.



# Collecting Crystal Faces: Part I - Introduction and Isometric System

by John Vanko ©2017 John C. Vanko and Phillip Beck

## Introduction

We collect minerals for many reasons - color, shape, location, among others. Minerals of different and beautiful colors are highly desirable - malachite, azurite, cobaltian calcite - all exquisite colors. Minerals of different shapes, like barite roses, pyrolusite dendrites, and natrolite needles, are wonderful additions to any collection. I have a special place in my heart for minerals of Maryland - my examples are not fancy, they won't be found in the collections of super sophisticated collectors, but they are special to me.

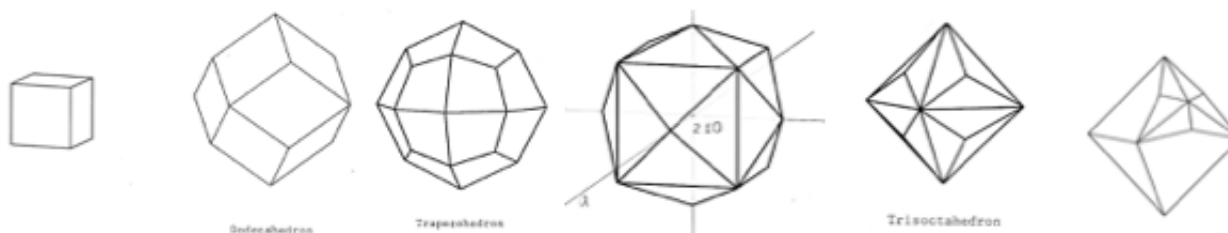
As we become more educated in our mineral collecting, you may find that crystal faces are the reason for your fascination with crystals. There are six crystal systems (or seven if you split the Hexagonal System into two), and each has its own set of crystal faces. You can collect examples of these crystal faces. This presentation is an introduction to collecting crystal faces.

Let's start with the Isometric System. That's the proper name. We often call it the Cubic System. That's okay. Either one works. This is where we will start tonight.

## Basic Principles

What is it that makes minerals of the Isometric System so attractive? For me, it is the high degree of symmetry - the highest symmetry of any crystal system. There are three elements of symmetry - planes of symmetry, axes of symmetry, and centers of symmetry. The Isometric System has all three - a center of symmetry; three axes of four-fold symmetry, four axes of three-fold symmetry, six axes of two-fold symmetry; and nine planes of symmetry.

Crystal faces represent what we call "forms". The cubic face is a form. The dodecahedron is a form. There are seven forms in the Hexoctahedral Class of the Isometric System. The five others are: octahedron, trapezohedron, tetrahedron, trisoctahedron, and hexoctahedron. But there are other "Classes" in the Isometric System: Gyroidal Class, Hextetrahedral Class, Diploidal Class, and Tetartoidal Class. All of these have fewer elements of symmetry than the Hexoctahedral Class, but they are all still part of the Isometric System.



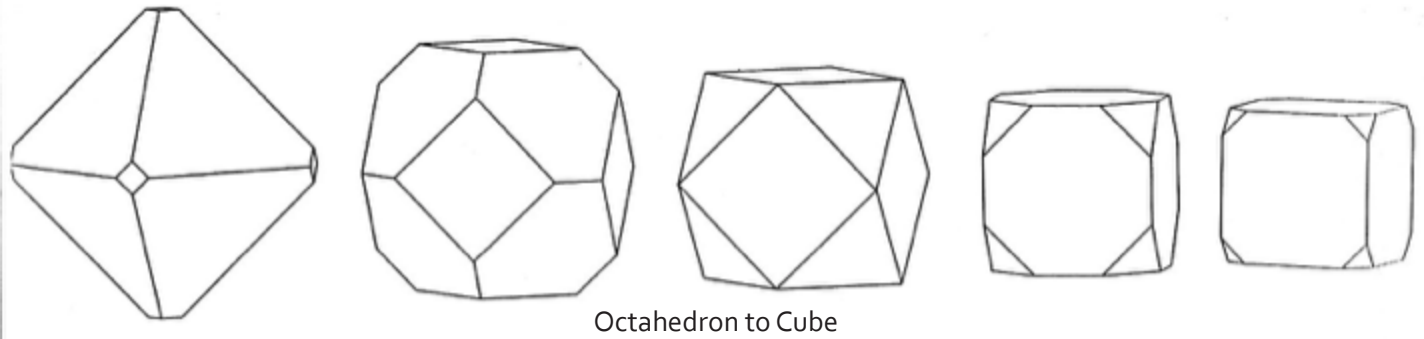
Cube, Dodecahedron, Trapezohedron, Tetrahedron, Trisoctahedron, Hexoctahedron on one octant of Octahedron

## Collecting Crystal Faces

Happily, some very common minerals are members of the Hexoctahedral Class of the Isometric System: Garnet, Fluorite, Galena, Magnetite, Analcite, and Halite. You can find examples of crystals of these minerals at mineral shows priced very economically. You don't need a perfect crystal. A Fluorite with just three cubic faces, and a corner, makes a wonderful example of the Cube. Pyrite and Halite are other minerals that often display very nice Cubes.

Garnet is especially wonderful for examples of Dodecahedron and Trapezohedron, often combined together. A progression, from one form to the other, makes a very nice display in your mineral cabinet. And yet, Garnet is also very good for finding small faces of Tetrahedron, Hexoctahedron, and even Cube.

A series of Galena crystals, from Cube to Octahedron, is another splendid cabinet display.



The most recognizable of the other Isometric Classes is the Diploidal Class, exemplified by Pyrite. It lacks the Tetrahedron, but has instead the Pyritohedron, which is like every other face of the Tetrahedron.



The Diploid form of the Diploidal Class is similar to the Hexoctahedral form of the Hexoctahedral Class, but with only every other face. Yet Pyrite often displays Cube, Trisoctahedron, Trapezohedron, Octahedron, and Dodecahedron. Finding a Pyrite crystal that displays these seven forms is a pinnacle of crystal collecting.

The Gyroidal Class is impossible. A couple minerals, Sal Ammoniac and Cuprite, were once thought to be (or possibly be) Gyroidal, but now Cuprite is considered to be Hexoctahedral. Sal Ammoniac may indeed be Gyroidal. Forget finding an example of the Gyroidal Class, but growing your own crystals of Sal Ammoniac at home may do it.

The Hextetrahedral Class is perhaps best exemplified by Tetrahedrite - not so difficult to find in good crystals at mineral shows. And the Tetartoidal Class is represented by Cobaltite - difficult to find in good crystals exhibiting the Tetartoid - good luck.

## Extending Your Collecting Goals

Your first goal might be to go through your collection and identify crystals in the Isometric System, then arranging them by the Class within the Isometric System. Use a good reference book, like "A Field Guide To Rocks And Minerals" by Frederick Pough, "Dana's Manual of Mineralogy" by Hurlbut, or [www.mindat.org](http://www.mindat.org), to identify the Class.

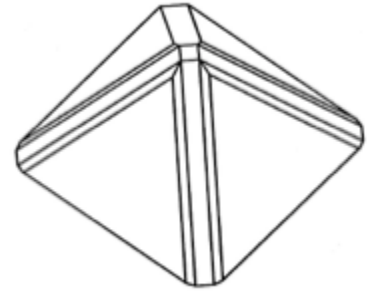
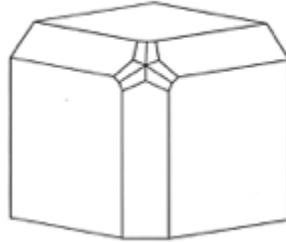
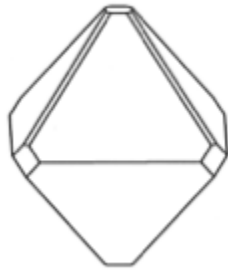
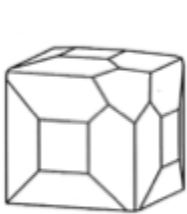
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# Collecting Crystal Faces

*continued from page 5*

Or group them according to the crystal form - remember, the Cube face can be found in all five Isometric Classes. You should be able to find Cube, Octahedron, Dodecahedron, and Trapezohedron easily.

Another fascinating display exhibits crystals with different combinations of forms.



Magnetite (Balmat, NY). Pyrite (Huanzala, Peru), Fluorite (Naica, Mex.),

Pyrite (Huanzala, Peru)

For me, crystals make mineral collecting so very special. Collect and classify them, and they will give you much enjoyment for many years to come.

Footnote: This presentation derives from "Lessons In Crystallography", a work by John C. Vanko, commissioned and copyrighted by Philip Beck, 2017. All rights reserved. Published with permission.

## Last Call for Membership Renewal

*by Carolyn Weinberger*

The March meeting is the final opportunity for you to renew your membership in the Baltimore Mineral Society.

Dues remain a bargain at \$10 for individuals and \$15 for families. We've included a renewal form on page 11 of this issue -- please fill it out and bring it with your check (or cash) to the meeting on March 28. If you cannot attend the meeting, just drop it in the mail so I receive it by March 28.

Following the meeting I plan on updating and publishing the 2018 club roster and changing the "Members Only" page password to ensure confidentiality of your personal information.



## Scrambles

*by Mike Seeds*

Unscramble the following to spell the names of some native American minerals.

Java one it \_\_\_\_\_

Pica heat \_\_\_\_\_

Tie hope \_\_\_\_\_

Make it how \_\_\_\_\_

I tie smoke \_\_\_\_\_

Finally, what do these minerals have in common?

Answer can be found on page \_\_\_\_

## February Mineral of the Month

*text and photo by Mike Seeds*

Magnetite was the mineral of the month at the February meeting, and a number of members brought specimens. Al Pribula brought a large selection, and explained that one of the specimens he had been sure was magnetite was questionable. Although it comes from a well known source, Cerro de Mercado in Mexico, a location well known for magnetite, he happened to test it with a magnet and found it unresponsive. It is not magnetic, and therefore cannot be magnetite. He suspects it is mislabeled and is really martite, a hematite pseudomorph. He now wonders of the many magnetite specimens known from the location are really martite.

Jim Hooper brought two rocks. One he collected at Mineral Hill. He says, "It's become a favorite in the collection since it has observable chalcopyrite, epidote crystal, a little chrysocolla and magnetite. It has attended several club meetings." The other rock came from a flea market and it has no provenance, but it is dark, heavy, and magnetic, so it is probably magnetite.

Mike Seeds brought three micromounts. One was a shiny cube, one was a cluster of merged cubes, and one was matrix with three octahedrons of magnetite.

Steve Weinberger brought a dozen or so thumbnails in Perky boxes. They illustrated a number of different crystal forms and came from an interesting array of locations.

Phil Greenberg produced two hand-size specimens of magnetite one with clustered octahedral faces. He said he probably has more but they were buried under his large collection of metallic arsenic and stibnite.

Chris Altizer brought a piece she had collected while climbing Piestewa Peak (formerly known as Squaw Peak) near Phoenix Arizona. While it did not appear to contain magnetite, she prized it for its shape; she calls it her Africa rock.



*Al Pribula and Mimi and Jim Stauffer discuss magnetite*

## Questions from the Basement

*by Al Pribula*

As most of you probably know, in addition to being the President of the BMS, I currently am the (volunteer) mineral curator for the Natural History Society of Maryland. When I took over about two years ago, that mineral collection wasn't in the best of shape. The collection had been housed in about 300 flats in the basement of the NHS building since the Society had moved in about five years ago. In its previous location, the collection had suffered some damage from a water leak and a number of the specimens had deteriorated past the point of no return, so these were discarded before the move. The previous curator (Fred Parker, who many of you probably remember) did his best to get the collection into boxes for the move and to identify specimens, but, unfortunately, many of the specimens either lacked labels (either because they never had them or the labels had been lost or damaged beyond readability) or only were accompanied by incomplete information.

I have now gone through the specimens and organized them geographically (by quarry, county, state, etc.) as the accompanying information allowed. However, about a quarter of the specimens lacked sufficient information as to their identity, their location, or both. So: here's where the "questions from the basement" come about.

Those of you who were at the February BMS meeting have seen these "questions" in action. I brought a number of specimens to the meeting, stated what I knew about them (which mineral(s) were present), and asked the attendees for opinions (specifically, about their localities). I was very pleased with the response. I got a positive confirmation of my suspected locality for one of the specimens, some virtually certain information about the locality of two others, some fairly solid information about a bunch more, and three good suggestions as to the locality for another (and I'm now reasonably certain as to where that one originated after looking at information on Mindat). All who participated seemed to enjoy the opportunity to help me to more fully identify these specimens in the NHS collection, and lots of good discussion was generated.

I plan to make this a feature of every BMS meeting—at least until I run out of questions (which will take some time, since there are many specimens in the boxes in the basement with incomplete documentation). By "crowd-sourcing" for the information, I can draw on the collective wisdom and experience of the BMS membership to help me to do the best job possible of stewardship of the NHS mineral collection. Thanks to all of you who volunteered information at the February meeting, and thanks in advance to those of you who will do the same at future meetings.



# Earth's Rarest Minerals Give Diamonds a Run for Their Money

by Chris D'Angelo from *Micromounters of New England Newsletter*, November 2017

Some minerals are so rare, the entire Earth's supply is smaller than a sugar cube.

Marilyn Monroe, who famously said, "Diamonds are a girl's best friend," probably hadn't heard of Sardinian ichnusaite.

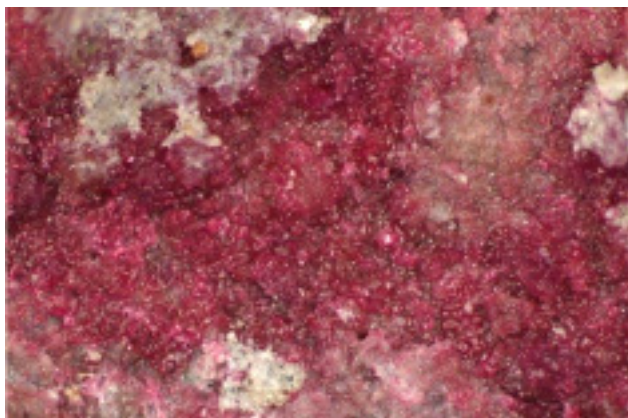
Ichnusaite, a pearly, colorless and brittle mineral, was discovered on the Italian island of Sardinia in 2013. Mineralogist



*Ichnusaite is only known to exist on the island of Sardinia, in Italy. (Photos by Robert Downs/University of Arizona).*

Robert Hazen says that with only one known specimen, it's a true rarity. "If you wanted to give your fiancé a really rare ring, forget diamond. Give her Sardinian ichnusaite," said Hazen, co-author of a new paper categorizing Earth's rarest minerals.

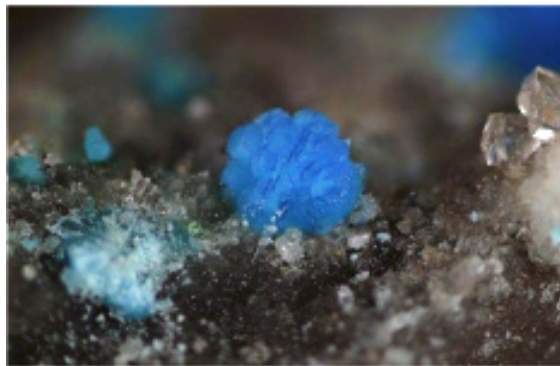
Or maybe go with cobaltomenite, a pink-red mineral found in just four locations — Utah, Argentina, Bolivia and Congo. As the Los Angeles Times reports, cobaltomenite is so rare that the Earth's supply could fit in a shot glass.



Cobaltomenite is found in just four places on Earth.

In a study to be published in *American Mineralogist*, Hazen, of the Carnegie Institution in Washington, and Jesse Ausubel, a scientist at The Rockefeller University, inventoried and categorized more than 2,500 minerals — the rarest of the rare. Each comes from five or fewer known sites worldwide, and several have a known supply smaller than a sugar cube. "These

2,550 minerals are far more rare than pricey diamonds and gems usually presented as tokens of love," the authors wrote in a statement. But there's one major problem for those thinking of putting the rare minerals on a wedding band. "Several are prone to melt, evaporate or dehydrate," the authors said. "And a few, vampire-like, gradually decompose on exposure to sunlight."



*Nevadaite is formed from the scarce elements vanadium and copper under very restricted environmental conditions. The crystals are colorful but microscopic, and only known from two localities — Eureka County, Nevada, and a copper mine in Kyrgyzstan.*

While there are more than 5,000 confirmed minerals on Earth, fewer than 100 of them make up 99 percent of Earth's crust, according to the study. It's the rarest ones, Hazen told BBC News, that make Earth special and are "key to the diversity of the Earth's near-surface environments." In their paper, "On the Nature and Significance of Rarity in Mineralogy," Hazen and Ausubel categorize rare minerals based on the unique conditions that created them, the rarity of their ingredients, how ephemeral, or short-lived, they are, and the extreme, remote locations where they are found.



*Fingerite, named after mineralogist and crystallographer Larry Finger, is the "perfect storm" of rarity.*

*continued on page 11*



# What are YOU Waiting For?

*text and photos by Steve Weinberger, from EFMLS News, March 2018*

The Eastern Federation is most fortunate to be able to sponsor two annual week-long workshops at the fabulous Wildacres Retreat in Little Switzerland, North Carolina. If you've not yet attended one of these terrific sessions,

## **What are you waiting for?**

Each workshop features a guest speaker (Speaker-in-Residence) who lives with the group and presents six informative talks during the week. In addition, each session features a variety of classes that you take -- jewelry fabrication, faceting, wire-wrapping, beading -- to name just a few. A complete list of offerings and a registration form can be found on the "Members Only" page of our website ([www.baltimoremineral.org](http://www.baltimoremineral.org))

For the spring session, May 21-27, we have the vivacious and talented Helen Serras-Herman. Helen will share her passion for jewelry fabrication, gemstone carving and travel with us. In fall, Alfredo Petrov, noted mineral dealer and collector will be making a return visit. The mineral "alfredopetrovite" was named after him.

A bit about the Wildacres Workshops and Retreat... Located just off the Blue Ridge Parkway, about an hour

north of Asheville, the Wildacres Retreat nestles on top of it's own mountain called Pompey's Knob. The Retreat facility consists of two lodges each featuring a series of comfortable, semi-private bedrooms with their own bathroom. Well equipped classrooms are scattered throughout the campus, many equipped with specialized equipment such as capping and faceting machines, jewelry making equipment, etc.

Meals are included are served family style in a separate dining hall. All of your expenses, except materials for your classes and items you may wish to purchase in the canteen or at the annual auction, are included with your tuition. For 2018, tuition is \$425.00 per person.

## **What are YOU waiting for?**

Classes are kept small and are assigned, based on your preferences, on a first come-first -filled basis, s we encourage you to register early to ensure your first choice. Some classes do fill rapidly, so please indicate 4 choices per semester so you won't be disappointed.

## **What are YOU waiting for?**



## Shoobox Adventures 75: Wulfenite Needles

text and photos by Mike Seeds

Wulfenite is a well behaved mineral. You can trust good old wulfenite to look like wulfenite. It doesn't mess around. It doesn't get all dressed up and pretend to be some other



*A needle of wulfenite with willemite, from the Great Southern Mine, Wickenburg area, Arizona.*

*The needle is 1.6 mm long.*

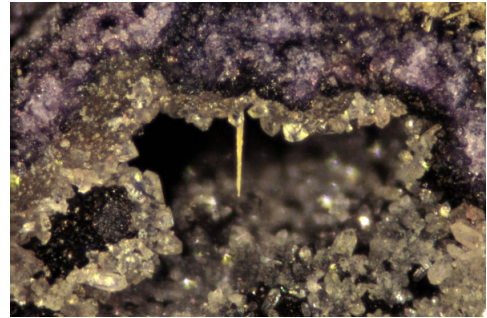
mineral, and, although the color can vary a bit, it is almost always a satisfying beer yellow. Wulfenite seems like a Charley Brown mineral, but look again. There are a few places in the world where wulfenite goes crazy.

Wulfenite in the Barranco del Humo Mines in Spain can form thickened plates, and that thickening can extend outward along the axis perpendicular to the plane of the plates. The crystals can actually be found as truncated octahedra, and some extend to a point and are fully octahedral. Some can grow highly elongated looking like spikes. That's extreme, but it isn't the most extreme wulfenite.

The Great Southern Mine near Wickenburg, Arizona hosts some interesting rocks. Fluorite is common there and much of the matrix is colored purple by fluorite. And clusters of acicular Willemite are delicate and snow white. But the real star is the wulfenite, which elongates along that perpendicular axis so far the crystals become needles. If you look closely at the first photograph, you can see that the needle is made up of a cluster of highly elongated crystals.

I first met these crystals in a way that is typical of micro-mounters. At the end of the Desautels Symposium some years ago, I was packing up my 'scope and shoobox of goodies when a well-known micromounter I knew only slightly stopped at my table. "Mike, they are cleaning up the giveaway table and leftovers will go to the dumpster, but there's an egg carton marked Great Southern Mine. No one has looked at it all weekend. Go get it and take it home. You'll like it." He didn't take it for himself and he didn't even share it. He just gave it to me, and it was a treasure and a puzzle. The beautiful purple matrix sported white fuzz and golden needles. This was BMD, Before MinDat, so it took me quite a while to identify the white fuzz as willemite, and the golden needles as wulfenite. Wulfenite

needles are not mentioned often in books, but you can find them now with a click or two on MinDat.



*A tiny needle of wulfenite. Note fluorite matrix. Eleven images stacked to control depth of field. The needle is 0.5 mm long.)*

The Great Southern Mine is only about 4 miles from the Purple Passion Mine, a location with similar mineralogy. Fluorite is common at the Purple Passion Mine and colors some of the matrix purple. Willemite and wulfenite are also common. Some of the wulfenite is simple plates, but some plates are zoned with darker cores and lighter layers above and below. Acicular wulfenite is found there, and some plates have spikes of wulfenite growing side by side over the plate. Those specimens have been called scrub brush wulfenite. Clearly the two mines sample the same mineralization.

Why would wulfenite grow into octahedra and needles?



*Wulfenite needles with willemite.*

Lots of different factors can affect crystallization such as temperature, pressure, saturation, pH, and on and on. But whatever caused the formation of wulfenite needles, it must be common to the two mines. One would expect local differences in temperature, pressure, pH, and so on, but perhaps there are factors that do not depend so delicately on location. Perhaps the presence of some unusual element at both mines can exaggerate the crystal growth.

At first glance, wulfenite is beautiful little plates, but at second glance it seems as exciting as Aunt Mandy's bridge club. All those plates are kinda the same. But look yet again and you can find wonderful variations in color and thickness, and at the extreme, you can find wulfenite needles.

# Baltimore Mineral Society Membership Renewal

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Names of family members included in membership:

\_\_\_\_\_  
\_\_\_\_\_

Annual dues for individual memberships are \$10.00

Annual dues for family memberships shall be \$15.00 for husband and wife and all children residing in the home under the age of 18.

**Renewal deadline is the March meeting.**

Mail or give to: Carolyn Weinberger  
PO Box 302  
Glyndon, MD 21071-0302

Checks should be made payable to "Baltimore Mineral Society".



## Scrambles Answers

Java one it	Navajoite
Pica heat	Apachite
Tie hope	Hopeite
Make it how	Mohawkite
I tie smoke	Eskimoite

What do all these minerals have in common?  
They are all named after Native American tribes.

## Earth's Rarest Minerals...

*continued from page 8*

A "perfect storm of rarity," Hazen said, is fingerite, known only to exist near the summit of Izalco Volcano in El Salvador. "It's made of rare elements — vanadium and copper have to exist together, and it forms under an extremely narrow range of conditions," Hazen told BBC News. "If you just change the ratio of copper to vanadium slightly, you get a different mineral. And every time it rains, fingerite washes away."

So, basically, if you're hoping for a dark-red hunk of cobaltomenite or a piece of nevadaite next Valentine's Day, keep dreaming.



## The Conglomerate

Mike Seeds, Editor  
2412 Lime Spring Way  
Lancaster, PA 17603



## Events Near and Far

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### March

28: BMS Regular meeting - 7:30 pm

### April

3: Gem Cutters Guild auction of slabs, equipment, faceting rough from the Estate of Carol Nix. Meadow Mill - 7:30 pm. Directions: [www.gemcuttersguild.com](http://www.gemcuttersguild.com)

6-7: 45th Annual Atlantic Micromounter's Conference, Holiday Inn, Richmond Highway, Alexandria, VA  
Guest speaker Herwig Pelckmans from Antwerp, Belgium. Info: [www.dcmicrominerals.org/](http://www.dcmicrominerals.org/)

13: Chesapeake Gem & Mineral Society meeting at Westchester Community Center. Noted author Renée Newman will speak on "How Exotic Gems are Changing the Jewelry Industry". 7:30 pm. Info and Directions: <http://chesapeakegemandmineral.org>

14: The Gem, Lapidary, and Mineral Society of Montgomery County (GLMSMC) auction. 9:00am -- 3:00pm, Rockville Senior Center, 1150 Carnation Drive, Rockville MD 20850 <https://www.facebook.com/groups/984241208329511/>

19-22: 45th Annual Rochester Mineralogical Symposium, Rochester, NY. Lectures by mineral experts from around the world. Info: [www.rasny.org/minsymp/](http://www.rasny.org/minsymp/)

25: BMS Regular meeting – 7:30 pm

### May

5: Members field trip to National Limestone Quarries in Mt. Pleasant Mills. Details next month.

19: Chesapeake Gem & Mineral Show 10 am – 4 pm, Ruhl Armory, Towson, MD Free Admission.

21-28: EFMLS Workshops at Wildacres. Registration and Info: [www.efmls-wildacres.org](http://www.efmls-wildacres.org)