



The Conglomerate

Newsletter of the Baltimore Mineral Society

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October 2016

BMS Members Volunteer at NHSM

by Al Pribula and Mike Seeds

The Natural History Society of Maryland has included minerals among its areas of interest for over a century. The classic reference book *Minerals of Maryland*, published in 1940 (available for download at the BMS website if you don't already own a copy), was written by C. W. Ostrander and W. E. Price, Jr., who were the Curator and Associate Curator of Mineralogy at that time. At the founding of the BMS in 1951, the late Harold Levey was the NHSM mineral curator, and the BMS has maintained its ties to the NHSM through the years with Fred Parker acting as mineral curator for a number of years, Al Pribula currently filling that position, and a number of other BMS

members currently volunteering in other capacities. In the early years of the BMS, its meetings were held at the old NHSM building on Maryland Avenue, and the circle has been completed with our meetings at the current building for the past few years.

The NHSM has an extensive collection of minerals dating back to at least the early 20th century. Unfortunately, in its previous home, the collection suffered extensive water damage to the specimens, their labels, and storage boxes. Before his move west, Fred Parker worked with the collection, culling out specimens damaged beyond hope, rescuing the specimens and labels that he could, and packing those specimens in flats which were transported to the current NHSM building. He separated out a number of the more significant specimens, some of which are on display in the meeting room used by the BMS. (Some of the other specimens on display were from the collection of Larry Krause, and were donated to the NHSM by Alice Cherbonnier after Larry's passing.)

Late last year, Al Pribula, Brad Grant, and Jake Slagle got a look at some of the roughly 350 flats of specimens in the NHSM basement, and were greeted with an amazing collection of classic specimens, mostly from Maryland, but with pieces from many other locations as well. Some of these are from localities still producing specimens (the Campbell (Texas) Quarry, Medford, Mineral Hill, Dinning, and many others), but many are from locations long since inaccessible (such as the Gwynns Falls, Jones Falls, and Woodberry quarries, as well as from the digging of the water tunnels under Baltimore City). Many have labels indicating that they were collected by Ostrander. What a pleasant surprise to be able to hold in your hand the laumontite specimen

October Meeting: The Basement Tour

from Jake Slagle

Founded in 1929, the Natural History Society of Maryland has an extensive collection of Maryland minerals that member Al Pribula and others have been sorting and organizing over the past few months. We've been invited to venture into the lower level (tombs) of the museum and explore the vast stock of treasures that are currently being stored there. This treasure hunt should be lots of fun as Al reports that he's found some very interesting specimens.

We'll begin our adventure at 7:30 pm with a short meeting in the usual meeting room, and after our refreshment break, venture downstairs to look at some of the hundreds of minerals (and fossils, birds, etc.) stored in the "tombs".

Anitra Schorr will bring our refreshments.

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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> 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.

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Write for "The Conglomerate"!

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

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President's Postings

by Jim Hooper, BMS President



It happened when I wasn't looking I guess. I look around now and see the pumpkin'd halls of October all around. Indian corn, fancy squash, and gourds, apples, and apple cider and chrysanthemums and hay bales now reside where fast receding signs of summer have disappeared entirely. Now we're looking at Halloween approaching and down the hall from there; Thanksgiving. As of this writing I can say we haven't been treated to the autumn wash of colors that take over the tree ranges and woodlands. I hope the early spring rains helped produce enough leaves to give us a colorful Fall among the seasonal changes.

And with that point here are some other seasonal changes we need to address! Another holiday approaches soon after Thanksgiving and the month of the club winter holiday party. And within that time we also carry out the election of officers and directors for the coming new year. I need, with your help to form the nominating committee who will provide a slate of candidates for the election at the party. We can do this at the October meeting. The nominating committee can be three club members who are not currently in officer or director positions. (the current officers and directors are listed on page 2 of the newsletter) The task of the committee is to divvy up club members and current officers and directors to contact and ask, 1. If they're in a position already, would they be willing to serve another term, and 2. If they're not already in a position would they like to help the club by serving in a position. Committees and representative positions like presentations, field trips, AFMS/EFMLS liaison, and others are appointed by the president soon after the election.

Please consider volunteering to be part of the nominating committee at the October meeting. It will be a great help to the society and the election process.

In other news our table at the Gem Cutters Guild was manned for the better part of Saturday and about half a day or so on Sunday. Let's thank Al Pribula for lending his 'scope and micromounts for the event. They were a big hit with the younger folk there. And thanks again to Patty Dowd for the creation of the BMS poster board display. It was made with durability along with great looks.

Look for reports of the Desautels Micromounters Symposium elsewhere in the newsletter. I will take the opportunity to thank the chief society supporters of the symposium for contributing the time and energy to make the symposium a success. Thank you once again, one and all.

And in closing let me also thank the hearty and resilient members who made it to the September meeting despite heavy rain here and there and threats of more bad weather. Troopers each and every one! And thanks too, of course, for Jim and Mimi Stauffer's presentation on the many years of collecting they've had at the various sites in the Ontario region up north of here.

See you in November when we explore the mineral storage area of NHSM!

Minutes From our Last Meeting

by Jake Slagle, Secretary



President Jim Hooper called the September 28 meeting of the Baltimore Mineral Society to order at 7:40 PM. The Conglomerate and later more specifically the minutes of the previous July 27 meeting were accepted. Treasurer Carolyn Weinberger indicated that the society remains solvent.

Old Business - none

New Business - none

Announcements:

- Bernie Emery thanked those Club members who attended and helped out at the previous weekend's Gemcutters Guild Show in Howard County. He also thanked the NHSM for lending its dinosaur as an attraction at the show

- Carolyn Weinberger encouraged members intending to attend the Desautels Micromount Symposium Oct. 14-16 to mail in their registrations as soon as possible.

Mineral of the Month:

The Mineral of the Month was Sphalerite. A few members brought in specimens to show.

After refreshments, Jim Stauffer gave a presentation with slides as well as specimens relating to his mineralogical experiences related to collecting, localities, specimens, and people in the Bancroft region of Ontario.

Nominating Committee Needed

from Jim Hooper

We're in the process of forming a nominating committee whose task will be to solicit members to serve as officers for 2017. Positions to be filled are:

President, Vice President, Secretary, Treasurer

Directors (3) (the immediate past president is automatically a Director).

Current officers may succeed themselves if they so desire, but should be asked if they wish to continue if the committee wishes them to.

BMS Volunteers

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from the Milford Trap Quarry pictured as the frontispiece in Minerals of Maryland!

Since that time, Al Pribula has gone through the collection and organized it by locality. In doing this, he came across a large number (about 30 flats) of unlabeled specimens. Brad Grant has expressed interest in going through those items to see which ones might be useful for hands-on workshops or as giveaway material to young collectors. Jake Slagle has already taken a number of photographs of the more interesting items as documentation.

The NHSM is in the process of deciding how best to use the items which have been donated to the Society over the years, perhaps limiting the scope of the collection. (Are donated items from Ohio or Arizona or New York or Japan to be kept? What about extensive duplication from a specific Maryland locality? If not kept, how will the unwanted specimens be dispersed?) Once that is done, the next step will be to produce a computer-based inventory of the collection. (No up-to-date inventory currently exists.) The current mineral curator would welcome help from any BMS member in this activity.

A number of specimens were donated to the NHSM by Joe McSharry, Bernie Emery, Al Pribula, Richard Hoff, Jim Schoonmaker, and others, to be used as premiums in an upcoming fund drive. On a recent Sunday afternoon, Bernie, Joe, Al, and Nick Spero went through the donations to begin to put together boxed sets of minerals to be given in thanks to donors. Patty Dowd will be preparing labels for these sets and they will be distributed to donors later this year. Bernie has been in contact with the daughter of a former (now deceased) BMS member, and he, Al, and Jake have evaluated his collection/accumulation. This material is now slated for donation to the NHSM and is expected to be transported to its new home soon. Once on site, there will be many hours required to sort through and organize this generous donation.

So, the BMS continues its association with the NHSM in a number of ways. Thanks are to be given to the BMS members who have already donated material or time to the NHSM. And—help from any BMS member who wishes to volunteer their time to the NHSM in the future will be welcomed. Contact Al Pribula to let him know how you are willing to help.

Mineral of the Month: Hematite – Fe₂O₃

by Steve Weinberger

The name hematite comes from the Greek, *haimatites*, or “bloodlike” in reference to the bright red color of the powder or streak.



Hematite
w/Andradite Garnet
Wessels Mine, Hotazel
Kalahari Manganese Field
No. Cape Province, So. Africa

Hematite can appear as small mica-like tabular crystals, steel-grey in color or in reniform masses (kidney ore.) The crystals are hexagonal and sometimes tarnish to iridescent. Thin sections are deep red.

Luster is submetallic to metallic, cleavage is poor but often good parting along 0001.

Hardness is 5-6.5, density is 5.26,

Hematite has three main types of crystals:

Elba type—predominant dipyrramids with rhombohedrons. Often rounded lenticular shape

Alpine type—tabular with predominant base, with small rhombohedral faces

Altenberg type—formed under high temperature conditions; deformed cube shape

Hematite can form under varied conditions from low to high temperatures. It is also a pigment in rocks and other minerals.

Hematite has been a good source of iron. Locations for the mineral are world-wide and would take up the space of many mineral of the month columns if we were to list them all.

References:

Bernard and Hyrsl. *Minerals and their Localities*.

Sinkankas, John. *Mineralogy for Amateurs*.



Hematite “Rose”
Diamantina, Minas Gerais,
Southeast Region
Brazil

Photos: Rob Lavinsky, I-Rocks.com.
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Desautels Recap

by Mike Seeds

Sixty years ago the Baltimore Mineral Society organized the first micromount symposium in the world, and on the weekend of October 15th, 2016, it presented the 60th Paul Desautels Micromount Symposium. Mineral collectors from as far away as Canada gathered at The Friends School to talk minerals, trade rocks, shop with dealers and explore the extensive tables of giveaways.



Special thanks to team leaders Carolyn and Steve Weinberger who covered many bases from computer engineering to culinary science, and to Al Pribula who was always the expert Auction Master. Thanks to all of the BMS members who helped: Bernie and Lynn Emery, Steve Dyer, Jake Slagle, new member Mark Kucera, and Jim Hooper.

Photos and Stories Wanted

Want to see your minerals in The Conglomerate? Whether you dig them yourself or buy them from a dealer, whether they are micromounts or boulders, whether they are rare or common, readers would enjoy seeing your mineral photographs and hearing about your adventures. Have you visited a mineral museum lately, gone collecting, driven through promising geology? Got some selfies in a rock shop or a mineral show? Submit your photos and stories so everyone can enjoy them. photos to <mseeds@fandm.edu>.

Safety Matters – Let the Chips Fall Where They May

by Ellery Borow, from Sept. 2016 EFMLS News

Yes, in most instances letting the chips fall wherever they may is about all we can do. When it comes to our hobby, however, we often try to exercise what I call - chip control.

Most of our lapidary work creates both large and small chips during the various activities of that work . Faceting, cabochon and sphere making, slab and trim sawing, and even some carving are usually performed wet using water, treated water, or oil. Wet work captures the dust and small chips, and together fall to the bottom of the pan -- instead of the entering the air we breathe. Working wet is a form of chip control. Some lapidary operations, notably carving, are done dry with any dust and small chips captured and diverted using some kind of fan, hood and ductwork. This too is a form of chip control.

Many activities in our hobby produce a different kind of chip -- a large chip. A chip whose flight, direction, velocity, and momentum are of concern determine how we manage chip control. Large chips are produced when a rock pick strikes a rock, when a sledge/crack hammer impacts a chisel, when a rock is tossed aside and in its landing hits another rock, and even when a bucket of rocks upended. Chips are also produced by seldom noted processes. For example, at shows I have noted demonstrations of geode cracking, with some of those demonstrations using chain and cutter , cast iron pipe cutters to crack the geodes. I have seen hydraulic and screw type matrix / specimen trimmers produce chips. Pretty much every operation to alter, separate, or play with the form of a hard rock produces chips.

How do we perform chip control, especially with those large chip producing procedures? First we should protect ourselves with proper safety gear such as gloves, long pants and shirt sleeves, eye protection, and whatever protective gear is appropriate for the situation. Now, PPE (personal protective equipment) is all well and good but what about the other folks in the vicinity of the chip- producing activity? What do we do in that case to address safety concerns? It is possible to shield an area from flying chips by positioning our body to protect others . We can utilize collecting buckets, screens, or other barriers to control the flight of chips. If blocking of chip flight is impossible, perhaps we can suggest that folks in the area wear their own PPE. In fact, if the persons in the area are our own kids, we can insist on it! Sometimes we can capture chips by carefully using our gloved hand to divert flying chips. Even fabric draped over the chip producing area can be effective

with chip control. On occasion it may even be possible to move the chip producing activity to a secluded area. It may sometimes be more prudent to hold off any major chip production until people in the area have vacated the space. Rockhounds are undeniably creative people .

We, as respectful rockhounds should mind where our chips fall. After all, we certainly want to be good, considerate, and thoughtful rockhounds.

Be safe, think safety, because your safety matters.

How Did This Get Here?

by Murray Nicholson via Scribe, September 2016

Scattered on the plains in front of the Rocky Mountain Foothills are tens of thousands of large boulders, the extraordinary remains of the ice age in Alberta. These pinkish or purplish quartzite boulders are part of the Foothills Erratics Train, a narrow area extending 600 kilometres southeast from Jasper National Park to the international border.

According to the current theory, the Foothills Erratics Train originated towards the end of the last ice age when a landslide similar to the Frank Slide dropped millions of tons of rock onto the surface of a glacier, near the town of Jasper. The glacier carried the rock out of the mountains into the foothills where it was deflected toward the southeast by the edge of the continental glacier. The boulders were deposited in their present pattern as movement ceased and the glacier eventually melted.

One erratic, called Split Rock, can be found on the northern edge of Calgary, where Centre Street crosses Beddington Creek. The largest of the foothills erratics, called Big Rock, is located in the middle of a field, a few kilometres west of Okotoks. Above the ground, this rock measures about 45 x 20 x 10 metres and is estimated to weigh over 18,000 tons. The ice sheet which carried it to this location would have been at least 60 metres thick and 180 metres wide.

Today, these boulders are one of the interesting landscape features of Alberta.

Garnet is a familiar mineral and gem name, but this simple name hides what is actually a pretty complex group of minerals. The name derives from the Medieval Latin word *granatum*, which in turn derives from an older Latin name for a pomegranate—an allusion to the purplish-red color commonly exhibited by this material. (Alternatively, it may derive from the Latin word *granum*, meaning a seed or grain or crumb, in allusion to the appearance of rocks where rounded garnet grains are randomly scattered like raisins in raisin bread.) This mineral (particularly the red varieties) has been used as a gemstone for more than 5000 years, and it is the January birthstone. The Bohemia province of the current Czech Republic has long been and still is a source of a large amount of the red garnet used for jewelry. In non-gem form, it is pulverized and used as an abrasive. It is found in countless localities worldwide, often in dodecahedral or trapezohedral crystals almost spherical in shape. When asked the color of garnet, most of us would answer “red,” but, as indicated in the title above, it has been found in almost every color. So: What is this material and why does it occur in such a wide variety of colors?

The Garnet Supergroup includes over 30 mineral species, most of which are far from household names. Within that supergroup, the Garnet Group consists of 14 species. These have the general formula $X_3Y_2(SiO_4)_3$, where X symbolizes a metal ion with a +2 charge and Y symbolizes a metal ion with a +3 charge. Of these, the six most common species are divided into two subgroups as follows:

Pyrope	$Mg_3Al_2(SiO_4)_3$	Uvarovite	$Ca_3Cr_2(SiO_4)_3$
Almandine (Almandite)	$Fe_3Al_2(SiO_4)_3$	Grossular (Grossularite)	$Ca_3Al_2(SiO_4)_3$
Spessartine (Spessartite)	$Mn_3Al_2(SiO_4)_3$	Andradite	$Ca_3Fe_2(SiO_4)_3$

Those on the left, which all have $Y = Al^{3+}$, are referred to as the pyrope subgroup, while the three on the right, which all have $X = Ca^{2+}$, are referred to as the ugrandite subgroup. Within each subgroup, there is extensive substitution of one ion for another (so, something identified as almandine may contain significant amounts of Mg or Mn substituting for the Fe, etc.; something identified as grossular may contain significant amounts of Cr or Fe substituting for the Al, etc.), but there is only very limited substitution between the groups. (Mg^{2+} , Fe^{2+} , and Mn^{2+} are of very similar size, but Ca^{2+} is significantly larger, so only limited

substitution of Mg^{2+} , Fe^{2+} , or Mn^{2+} occurs for the Ca^{2+} and vice versa.) Mn^{2+} and Fe^{2+} can substitute for Al^{2+} in either of the series. (Note that when in the “X” position, the iron or manganese ion has a +2 charge, but has a +3 charge when occupying the “Y” position.) There also can be substitution of V, Zr, or Ti in the “Y” position, and Ti or Al can substitute for part of the Si. Pretty complex chemistry! It is pretty rare to find any garnet whose composition closely matches the idealized end-member chemical formulas given above.

Especially in the gem trade, many of the garnets of composition intermediate between the idealized ones above are given varietal names (such as malaya (or malaia) garnet, rhodolite, hessonite or essonite, demantoid, melanite, topaziolite, tsavorite, umbalite, etc.), often based just on color. There are also artificially-produced materials not found in nature which crystallize in the garnet lattice, such as yttrium aluminum garnet and gadolinium gallium garnet (YAG and GGG; both used as a diamond simulant). Confused enough yet? It turns out that the vast majority of the colors of garnets are a result of d-d transitions in transition-metal ions (discussed in the two previous articles in the series), either as an essential component or a substitutional impurity. Let’s consider the six most common species in alphabetical order and try to sort things out and find out about their color varieties.

Almandine is the most common species of garnet, both worldwide and in the Baltimore area. It is always a red color due to the Fe^{3+} which is an essential part of its composition. (As mentioned in Part VI of the series, Fe^{2+} normally produces a pale green color, but in this case, the cation is surrounded by eight oxygen atoms at the corners of a cube, rather than the more common six atoms at the corners of an octahedron, so it absorbs a different energy of light than it usually does.) When the composition lies between those of almandine and pyrope (that is, if the “X” position is partially filled with Fe^{2+} and partially with Mg^{2+}), the red-violet variety called rhodolite is the result. The rhodolite variety called umbalite is a paler pink-violet color because Mn^{2+} replaces some of the Fe^{2+} and/or Mg^{2+} , making the color lighter. If the “X” position is partially occupied by Mn^{2+} and the “Y” position is partially occupied by Fe^{2+} , a black color results due to $Mn^{2+} \rightarrow Fe^{3+}$ charge transfer (to be discussed in Part VIII). The green “garnets” found in Michigamme, MI are actually not garnets, but rather clinocllore (var. ripidolite) pseudomorphs after almandine.

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Andradite is always colored due to the essential Fe^{3+} ions in its composition. By itself, Fe^{3+} usually leads to a yellow-orange color (as in the honey-yellow Al^{3+} -rich andradite variety named topaziolite), but this color can be modified by the presence of other ions. Substitution of Cr^{3+} for a small number of the Fe^{3+} gives the pale-to-medium green variety demantoid which is often faceted as a gemstone. (However, in some demantoids, Fe^{3+} is the only chromophore.) When titanium (Ti) substitutes for part of the Si, the black variety called melanite is the result, with the color resulting from a charge-transfer transition (to be discussed in Part VIII) from Fe^{2+} to Ti^{4+} . An unusual variety of andradite is the so-called “rainbow” garnet. The outer surface of these garnets consists of thin layers which are alternately Fe-rich and Al-rich (that is, alternating layers of “andradite” and “grossular”). This leads to the production of a range of colors due to interference/diffraction, similar to the situation in opal and in iridescent minerals discussed previously in Part IV of the series.

Grossular is colorless when pure, but that doesn't occur very often. Because of the free substitution of cations in the ugrandite group, it can be green due to Cr^{3+} , yellow/orange/brown due to Fe^{3+} , yellow or pale pink due to Mn^{2+} , or dark pink due to Mn^{3+} . The “raspberry” garnets from Mexico owe their color to the last substitution. The grass-green variety of grossular named tsavorite has both Cr^{3+} and V^{3+} as chromophores. If both Fe^{3+} and V^{3+} are present, an increasing Fe/V ratio makes the color grade from green into brown. Orange grossular garnets (such as those from the Hunting Hill Quarry in Rockville, MD, from Eden Mills, VT, and from the Jeffrey Mine in Quebec) derive their color from the presence of Fe^{3+} and from $\text{Fe}^{2+} \rightarrow \text{Ti}^{4+}$ charge transfer transitions (to be discussed in Part VIII of the series). Particularly if they are brownish-orange, these are sometimes called by the varietal names hessonite, essonite, or “cinnamon stone.”

Pyrope is also colorless if it is pure, but commonly is red due to the presence of Fe^{3+} in the “Y” site or Fe^{2+} in the “X” site (which gives a brownish red). (The name pyrope is derived from the Greek pyropos (“fiery-eyed”) in allusion to the typical red color.) The rhodolite variety was mentioned above under almandine. When the color veers away from the normal red-violet to reddish-orange (and even a touch of pink), it is called malaya (or malaia) garnet (from a Swahili word meaning “out of the family” because the color is slightly “off” from usual, not because

it comes from the country of Malaya); when the color is only slightly on the orange side, it is referred to as “rose malaya.” This change in color is due to the presence of Mn^{2+} and Fe^{2+} + (with small contributions from V^{3+} and Cr^{3+}), with paler stones having more Mn^{2+} and darker ones more Fe^{2+} +. The presence of Fe^{2+} and/or Mn^{2+} can also give a pale purple to purple-pink color. An alexandrite-like color change is exhibited by pyrope-spessartine samples where some V^{3+} and/or Cr^{3+} substitutes for the Al^{3+} . (This type of color change will be discussed more fully in a later article in the series.)

Spessartine has a pale pink color when pure due to the presence of Mn^{2+} . It also commonly occurs in an orange color (such as those from Loliondo, Tanzania) which is due to Mn^{3+} substituting for Al^{3+} in the “Y” position. (Note the difference in charge on the manganese ions in these two cases.) (The kyanite from the same locality is the same orange color (very unusual for kyanite, which is normally blue or grayish-blue) for the same reason.) Many specimens of spessartine have a significant amount of Fe^{2+} substituting for the Mn^{2+} (that is, they have a significant almandine component), giving a brownish-red color similar to that of almandine. Spessartine-pyrope series garnet which also contain Cr or V have a purple-red color.

Uvarovite is the least common of these six species. It is always fairly dark green in color due to the Cr^{3+} ions which are an essential part of its composition. Many deep green garnets are incorrectly called uvarovite even if they are really chromian varieties of another garnet species (such as the chrome grossular from the Orford Mine in Quebec). The rare garnet goldmanite (which contains vanadium in place of chromium in the uvarovite formula) has a similar color due to the presence of V^{3+} in the “Y” position.

I hope that the above has clarified this somewhat complicated situation. For further reading about garnets, I recommend Garnet—Great Balls of Fire published by Lithographie, which contains lots of information concerning varieties, localities, etc. (but not that much about the causes of color in these species) and Collector's Guide to the Garnet Group by R. J. Lauf (which has a fuller discussion of chemistry, structure, colors, etc.). The next installment in the series will present another common color-producing mechanism, this one involving the movement of electrons from one atom or ion to another.

Shoobox Adventures #65: Common Stuff

photos and text by Mike Seeds

Got wulfenite? Wulfenite is common stuff. Everyone has some in their collection, right? But one of the advantages of collecting micromounts is that even common stuff can be special. When you zoom in on a mineral specimen, you can find amazing scenes and unusual formations. Sometimes a common mineral conceals a startling bit of beauty.

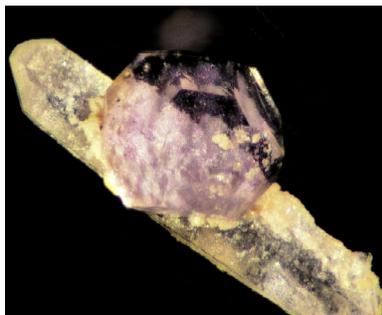
Wulfenite is common stuff. Everyone has wulfenite. Some big specimens are astonishing with crystal clear plates centimeters across standing up like orange butterfly wings, but some wulfenites are just glittery orange coatings. Zoom in on that coating and you can find some impressive crystals. The wulfenite shown here was a gift from Lou D'Alonzo. The entire specimen is 18 mm in diameter and covered by little yellow crystals, but the area shown in the photo is only 2 mm across. The glittery coating turns into a jumble of plates with beveled edges and corners cut diagonally by 114 faces.



Wulfenite, Ojuela Mine, Durango, Mexico. FOV: 2 mm

The photo above is only two dimensional, but if you look at the mineral specimen under a stereo microscope, you see it in three dimensions. The plates stand up like giant slabs of rock jumbled by mountain building, and you can use your microscope to fly over the specimen watching the plates and the dark caverns between them slide by.

How about fluorite? That's a mineral almost everyone has. Most specimens are cubes or fragments of cubes, but there are other crystal forms. The photo here shows



Fluorite cuboctahedra crystal on quartz. Sweet Home Mine, Alma, Colorado. Field of view 2 mm.

a tiny crystal of fluorite on a single quartz crystal. Note that the fluorite crystal, only 1 mm across, is a cuboctahedral form.

This little fluorite is a pleasure to turn slowly under a stereo microscope because of the unusual crystal form and the clarity of the fluorite. It is mounted on a single brush bristle and seems to float in the blackness inside the micromount box.

How about colemanite? It isn't as common as wulfenite or fluorite, but it's not that rare. It is a hydrous calcium borate that forms in evaporate deposits along with other boron minerals. It is usually collected as a mass of little crystals, but a microscope reveals a cluster of individual, clear, colorless crystals. Given that the specimen is a whopping 14 mm long, it is possible to zoom in and inspect individual crystals.



Colemanite, Boron, Kern County, California. Field of view 14 mm.

Micromounting isn't limited to rare minerals or unusual crystal forms. There is beauty in the most common of minerals when you can zoom in and look at them closely.

BMS Webpage

Brad Grant, the BMS Web Master, reminds everyone to check the BMS website (<http://www.baltimoremineralsociety.org/>) for information about upcoming meetings and activities and to submit photos and articles for inclusion on the web site. Brad's email address is <info@baltimoremineralsociety.org>.

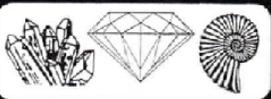
*The Gem, Lapidary and Mineral
Society of Washington, DC*
invites you to a
Sale & Auction
save the date
Sunday, October 30, 2016
*Gems*Pearls*Lapidary Materials*Minerals
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Woman's Club of Bethesda

corner of Old Georgetown Rd at 5500 Sonoma Rd
Bethesda, MD 20817

Preview noon – 2:00 pm
Auction – 2:00 pm
Free Admission!

Parking in the parking lot and on side streets.
Free pearl identification and Door Prizes!



**25th Annual
GEM, MINERAL
AND FOSSIL SHOW**

Presented by The Northern Virginia Club, Inc. www.novamineralclub.org
Sponsored by the Dept. of Atmospheric, Oceanic and Earth Sciences at GMU

Date:	November 19 & 20, 2016	
Place:	The Hub Ballroom (Student Union II Bldg) George Mason University Campus Braddock Rd. & Route 123, Fairfax, VA	<p>\$1 OFF Adult admission with this card (applies to all adults + seniors in your group)</p>
Hours:	Saturday 10am-6pm, Sunday 10am-4pm	
Admission:	Adults: \$6, Seniors: \$4, Teens (13-17): \$3 Children 12 & under, Scouts in uniform, and GMU Students w/valid ID are FREE.	

Demonstrations, Exhibits, and Door Prizes. Mini-mines for children to dig in and get free fossils and minerals.
Over 20 Dealers with Fossils, Minerals, Crystals and Gems for sale.

Use Parking lot A, enter Lot A from Nottaway River Lane.
Look for our Courtesy Shuttle to Mineral Show

The Conglomerate

Mike Seeds, Editor
516 Bald Eagle Ct;
Lancaster, PA 17601



Upcoming Events

October:

26: BMS meeting at Natural History Society. Just in time for Halloween, we go into the “tombs” at NHSM! Meeting starts at 7:30 pm. Refreshments by Anitra Schorr.

October 30: GLMS/DC Annual Sale and Auction. Woman’s Club of Bethesda, 5500 Sonoma Rd at Old Georgetown Rd; Bethesda, MD. Preview noon - 2 pm; Auction starts a 2.

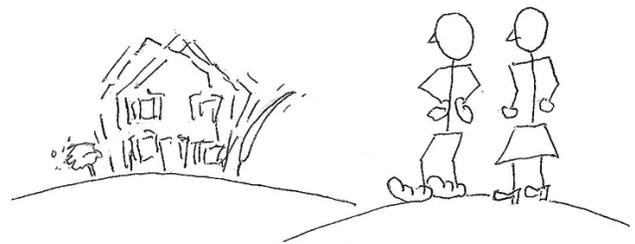
November:

1: Gem Cutters Guild auction meeting. Meadow Mill at Woodberry, - 7:30 pm.

11: Chesapeake Gem & Mineral Society meeting. The Johnssons take us on an archaeological dig to Israel. Westchester Comm. Center, Oella, MD. 7:30 pm.

19-20: 25th Annual No. Virginia Mineral Club show. George Mason University, Fairfax, VA. (see coupon and info on page 9)

Last Laugh



“He has a really big rock tumbler.”