

The Mineral Minutes



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"The Many Faces of Fluorite" by Herwig Pelckmans

by Yuri Kalish, MSDC Vice President

In this Issue:

Our April presentation will be "The Many Faces of Fluorite" by Herwig Pelckmans. Herwig is the president of the Mineralogical Society of Antwerp, Belgium, and is active traveler and presenter. We are lucky that Herwig's visit to this area coincides with our monthly meeting, providing us with an opportunity to listen to a great in-depth story of fluorite – a wonderful representative of halide mineral family.



The club's President, Dave Hennessey, had an opportunity to hear Herwig before and tells me that he is looking forward to this presentation. According to Dave, Herwig's travels and collecting trips have

brought him and his family all over Europe and the United States, and even to some countries in Africa and Asia. In addition, Herwig loves to write mineralogical articles and gives talks for mineral clubs. Herwig also is a strong promoter for the use of the polarizing microscope and spindle stages as an inexpensive and reliable tool for mineral collectors who want to identify their unknown treasures in a scientific way. He retired from his job as an officer and database administrator for the Belgian Army in 2013 and soon realized that life is even more hectic in retirement. He, his wife, and three kids live in the small town of Hasselt, Belgium, about one hour east of Brussels.

Please join us in taking Herwig to dinner on April 3rd at 6:00 pm at the Elephant and Castle at 1201 Pennsylvania Avenue, NW. If you cannot make it to dinner, please go directly to the lobby of the Natural History museum (Constitution Avenue entrance) at 7:30 pm. We will head upstairs to the Cathy Kerby Room at 7:45 pm for Herwig's presentation.

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Prez Says..

by Dave Hennessey
MSDC Club President

Spring has sprung. The cherry blossoms are supposed to be at their peak on April 3rd, the

MSDC's March Business Meeting Report

by Amanda Parker, Editor

We opened the night by inviting club members to share any updates they had, and Ken Reynolds spoke of the Delaware show, stating they had about 30 displays, and a full show with several dealers that would also be at the Montgomery County show (example below).



It was noted the Smithsonian would also have a case and a historic Maryland case form the 1800s would be on display.

Dave Nanney gave updates on long time member Susan F. and club secretary Andy T. Susan is doing better than expected but staying low. Andy caught strep and had a trip to the ICU recently he is recovering. He sends his best, and dutifully sent his request for security to let us into the building tonight.

Two Western Kentucky visitors announced Mr. Clement has a mineral museum and about 4,000 specimens on display in an 8,000 sq. ft building. He died in 1980 and his son Junior, a minister who didn't know what to do with the rocks, decided to make it a museum after some guidance. In 1995 he took 100 pieces to the Munich show and the fluorite became the star of the show and got the museum it's notoriety that it has today.

day of our meeting. So come early, check out the trees, and then come over to dinner at Elephant and Castle before the meeting. Our pre-meeting dinners are a great opportunity to meet the speakers in advance of their presentations and just talk minerals with other club members who appreciate them as much as you do. One of the things I like best about our club is the socializing after the speaker's presentation, but talking minerals at the dinners before the meeting is just as rewarding. If you are a dinner regular, you know what I mean. If you haven't come before now, give it a try.

For "Sharing Time" this month, since our presenter will be talking about fluorite, I invite everyone to bring along any fluorite specimens from your collection that bring a smile to your face. Or any other minerals that you would enjoy talking about with the group. Bring whatever fascinates you or what you think other club members will find interesting.

I look forward to seeing everyone on April 3rd.

Treasurer update:

Annual dues are due! Please bring your checks to John Weidner on April 3rd. Only 15 members are currently paid as of the March meeting.

Dave Nanney reminded everyone of the Micro Mount meeting. Dave Hennessey then informed members of the March 30th field trip to Manassas.

Geology in the News was discussed, and the Great lakes retreat of an ancient ice sheet. Parts of it are rising, the north end is rising, but Chicago's end is sinking because of the way the ice sheet compressed everything. Everything kind of humped up around it. Now the depression is rising so Chicago is essentially sinking.

We then passed a motion for minutes and continued the meeting, where Dave Hennessey introduced Yuri, the vice president.

He introduced Dr. Wise who earned his PhD from the University of Manitoba. He is a friend of the club and works at the Smithsonian. Today's presentation is on the research of Pegmatites that Dr. Wise does, an interesting type of igneous rocks. Yuri mentioned he is specifically hoping to learn more about the difference between granites and granite pegmatites. Recently a couple members recently said they don't really understand what they are. So, by special request dr. Wise was asked to add to that and explain exactly what they are.

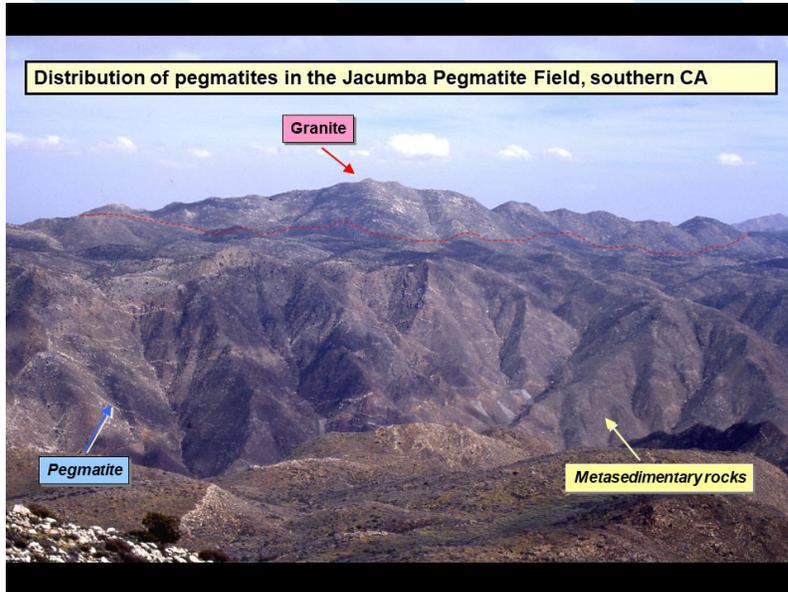
After being introduced, Dr Wise joked that he would explain why he loves them so much and give a test at the end and continued to the presentation. (Pictured Below: Smithsonian Display Case at Montgomery County Mineral Show)



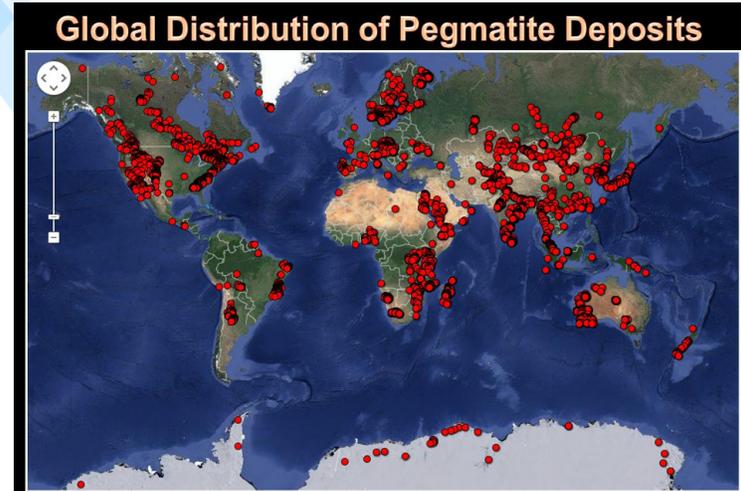
March Program Report "Pegmatites" by Dr. Wise

Synopsis by Amanda Parker, Editor

People think of single bodies when they think of pegmatites, but most are not a single body, they occur as a part of a much larger group. Dr. Wise explained in Southern California there is a granite body with pegmatite dykes intruding into sedimentary rock which is a typical occurrence.



He then showed us a worldwide distribution, noting pegmatites are everywhere, even Antarctica.



This shows the locality and he noted they are a significant part of the earth's crust. They include industrial minerals, rare earth minerals and feldspar to name a few. Muscovite was mined in the 40s and is still used for cosmetics and decorative purposes, utilizing its glitter effect. In Brazil there are huge masses mined solely for decorative purposes.

Decorative stone



Another rare earth mineral is Tantalite, an element used in electronics and the health industry as well as video games and cell phones. Tantalite is primarily from pegmatites. Aquamarine, beryl, topaz, tourmaline, spessartine, spodumene, are all primarily from pegmatites.

Dr. Wise notes some minerals, like Herderite, Jeremejevite, and Triphylite are rarer than diamonds, and therefore much more interesting. Collectible minerals are mostly what drives interest in pegmatites.

Gemstones From Pegmatites

(All rarer than diamond!)



Herderite



Jeremejevite



Triplite



Triphylite



Amblygonite



Manganotantalite

Pegmatology encompasses a wide variety of disciplines in geology making it difficult to understand. Dr. Wise continued to explain the definition of Pegmatite and how it was derived originally in 1801 when a French mineralogist described this rock as graphite granite, and the quartz showed a hieroglyphic-type pattern he referred to as graphite granite. "Pegmatite" it later became known, followed by Coarse-grained feldspar rich granites.

It was explained that the grain sizes are very different in the granite and pegmatite. The minerology is the same in both, they have the same make-up, but "pegmatite" is a term primarily related to textural qualities. Most descriptions only covered minerology before, but later it was found these can have beryl, garnet tantalite, etc. In the 40s and 50s a group of geologists went on large mapping expedition across the US and found internal structures and how they intrude other types of rocks. In the 80s they expanded the definition and classifications further.

The host or parent igneous rock is really what determines the difference between a granitic pegmatite and granite. They might have same minerology but have different textures.

As an example, a mineral specimen might have segregation in grain size. It's a heterogenous sample that has developed zoning. It's common to have a pegmatite where crystals get larger and larger and that is a type of zoning. The bands and layers in rocks are as well. The granitic pegmatite definition attempts to encompass the diverse range of pegmatites in known existence.

So why are they the most amazing rocks? Because sedimentary rocks are boring! (haha) Pegmatites are simply more diverse. Metamorphic, intense heat and pressure are cool!

Dr. Wise explained the attitude of pegmatites is only revealed under close investigation. Plasticity, proximity to Earth's crust, number of dykes or size don't matter as much as getting close to the rock and analyzing composition.

In short, Dr. Wise explained how intrusive pegmatites behave. Something forces itself into country rock (the rock that encases an ingenious intrusion, a mineral deposit, or something else) and it behaves intrusively like an igneous body does. If the host rock is plastic enough, it will force the bending of the rock. This is what separates pegmatites from sedimentary rocks.

Basically, a thin melt, not magma, becomes a solution introduced to the

Intrusive Nature of Pegmatites



country rock and then zoned pegmatites are created. Dr. Wise prefers zoning because it shows how the pegmatite formed.

If it's possible to determine the right number of zones, a change in minerology or a change in crystal size, that tells us there is a change in chemistry as well as water content. Some may say they see two while others say they see five in the same pegmatite. More accuracy gives a better understanding of how it evolved over time.

Placement and replacement features alter everything previously discussed in this article. There are things that will corrode and alter the primary mineralogy to something else. Moorefield Mine is known for amazonite. The color is green, teal, started tan, altered to green. The middle is brown, while green encroaches upon it. This is an example of replacement.

After showing us several more examples of replacement and explaining how pegmatites have their own microenvironments, he detailed the chemical characteristics of granitic pegmatites and presented some thoughts on formation theories.

Chemistry

Unlike granites and sedimentary rock that have limited chemical makeup, pegmatites are opposite. Some of these elements originate as very low quantities in the earth's crust. Several rare minerals can be mined in one pegmatite and the process that concentrates them is unique. What's the source and how do you concentrate them to that degree? It's an igneous process, but what rock did you have to start with to get to this point? Where do you get all these elements at high concentrations?

Crystals will evolve over time, sometimes fast and sometimes slow. Color is related to specific pegmatite types, like aquamarines and other tourmalines and it contains a lot of information on how the pegmatite grew over time. Calcium bearing minerals somehow went from potassium rich to sodium rich to calcium rich and we know it happened at the end because of zeolite zoning.

Dr. Wise explained the many idea behind where pegmatites come from and how long it takes to create different sized crystals. Sometimes it doesn't take long at all to create a very large crystal, for example, and other times it happens very slowly.

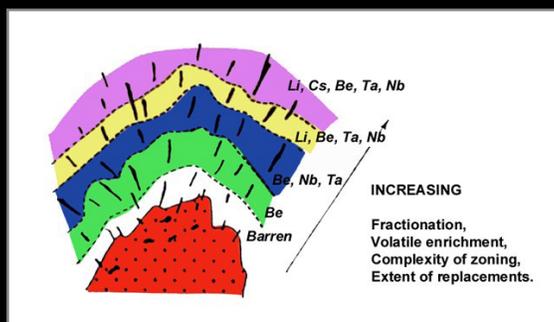
Hyalite opal's surprises were also explained. Fluorescing reveals how, out of 13 localities studied, every single one was unique in layer formation upon zooming in close to the samples. Other slides showed how pegmatites are created in chambers within country rock.

Most believe ultimately, pegmatites are daughters to parent magma chambers. They solidify, crystalize into feldspar and quartz mostly, any water left in there gets concentrated, as do a lot of other rare elements. Some include beryllium,

tantalum, rare earth minerals and wait until concentration to the point that it can becomes a mineral. As the temperature of the melt decreases, other minerals form.

We see zoning patterns on a regional scale. The systematic change in mineralogy is common across earth. We can use this to work our way back to the source of the pegmatites possibly. Some believe it's not possible. Some think they're formed from the partial melting of sedimentary rocks. How they are formed is still being discussed today.

Granite – Pegmatite Systems



Who Murdered Plagioclase???????

by Susan Fisher

In the beginning, let's be completely clear. I am not a geologist or a mineralogist; I am just a very amateur mineral collector. The last real college level geology/mineralogy classes I took were in the days when pterodactyls nested on the porticos of the geology building and the college mascot was a woolly mammoth. A few days ago I was innocently doing a little research on some of the minerals in my collection and I picked up my copy Fleisher's Glossary of Mineral Species, 2008. When I turned to the Feldspar group, I noted that plagioclase wasn't listed.

That had to be a mistake! I quickly turned to the mineral listings and plagioclase wasn't there. I grabbed my 1999 version of the Glossary and plagioclase wasn't there either. I finally found it in the 1991 version. I was stunned! An old friend had dropped out of the mineral world over twenty years ago and I hadn't even noticed! My whole world shook! What has been happening while I sat happily in my mineral room and cataloged my collection? I did what any good collector would do! I retreated under my desk with my copy of Dana's System of Mineralogy, Seventh Edition – all three volumes – clutched tightly to my chest. Luckily my husband found me and coaxed me out by dangling a chocolate truffle in front of me.

After consuming several truffles, a little thought, and a couple of inquiries, I found that the demise of plagioclase was part of an ongoing effort by the International Mineralogical Association's (I.M.A.) efforts to bring some order to mineral groups and names. While I applaud moves toward order, I miss my old friend, the staple of lab quizzes. ("Is sample A orthoclase or plagioclase? Why?")

This revelation caused me to think about some of the other quandaries I have had recently. Should I remake forty years' worth of labels just because ferrobug uglyite or manganoscumoniarock became buguglyite(Fe) and scumoniarock(Mn). Frankly, at first, I didn't care that much as I probably don't have any buguglyite, iron bearing or otherwise. (I mean no disrespect to species collectors who may prize such minerals, but they just don't fit into my collection.) Now as I.M.A. continues to make changes in the naming conventions affecting greater numbers of minerals, I am starting to see a need to try to make sure my labels are up to date, but there is a problem. I don't have a scanning electron microscope stashed in the back closet and I can't always tell if my piece is just plain "xxxite" or might it be "xxxite(a)" or "xxxite(b)." Visual inspection doesn't always provide the answer and the information on many localities is not that specific.

OK, my labels may have a problem with really exact and up to date mineral names, but they are great otherwise. WRONG!!! Location names seem to be a bit fluid. In some cases, the suppliers of the minerals want to hide the source and it may take years to get the correct information. Moore's Compendium of Mineral Discoveries and sources such as Mindat, Rocks and Minerals, and Mineralogical Record help some to correct the misinformation, but that requires constant awareness and updates to labels. Mines and quarries tend to change names as ownership changes. Sometimes the same site may have several names depending on the entrance used and mines have a very annoying habit of running under county and state lines. (For example look at a simple little galena from the Tri-state area. That which was mined under Oklahoma may pop out of the mine in Kansas, but be labeled with the location of the company office in Missouri.) Then geopolitics gets into the picture and really confuses the matter. Some countries make a habit of changing names on what seems to be a weekly basis. There are wars that change borders and town names. This has certainly happened in the last 50 years and even more so previously. I have minerals mined in the 18th and 19th century whose original

labels reflect location names no longer on any current map. Don't even get me started on "correct" spelling of locality names. There are many languages whose words don't translate smoothly into the English alphabet. Somewhere along the chain of ownership of mineral specimens, someone tries to translate the locality name into the English alphabet but – surprise!!! – not everyone agrees that the translation was done correctly. Who is the "authority" on what the name should really be? If you think Congress has trouble coming to agreement, you wouldn't believe some of the arguments that take place on the subject of whether or not to put a hyphen in a mine name. What is the amateur collector to do? Do I invest in white-out in gallon containers or just printer ink by the carton???? (On the bright side, this means that I will be working with my collection as long as I can punch the keys on my computer.)

My head is starting to hurt. I love mineral collecting and my minerals, but I think I will retreat back under my desk now. Don't worry. I have a bag of chocolate truffles .

MSDC Club Information

Meetings are the First Wednesday of the Month (Jan-Jun and Sep-Dec). We meet in the lobby of the Smithsonian National Museum of Natural History at 7:45pm.

Website <http://mineralsocietyofdc.org/>

Facebook www.facebook.com/Mineralogical-SocietyOfTheDistrictOfColumbia



THE MINERAL MINUTES

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NEWSLETTER OF THE MINERALOGICAL SOCIETY OF THE DISTRICT OF COLUMBIA

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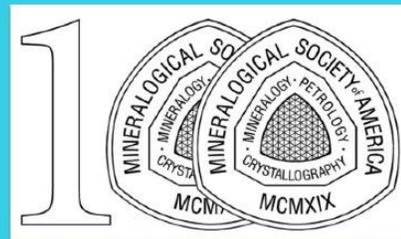
Useful Mineral Links:

	American Federation of Mineralogical Societies (AFMS)	www.amfed.org
	Eastern Federation of Mineralogical and Lapidary Societies (EFMLS)	www.amfed.org/efmls
	MINDAT	www.mindat.org
	Mineralogical Society of America (MSA)	www.minoscam.org
	Friends of Mineralogy	www.friendsofmineralogy.org/
	WebMineral	webmineral.com
	The Geological Society of America (GSA)	www.geosociety.org/
	Jeff Scovil Mineral Photography (not advertising - just great photos)	scovilphotography.com/
	United States Geological Survey (USGS)	www.usgs.gov
	The Geological Society of Washington (GSW)	http://www.gswweb.org/

Mineralogical Society of America Centennial (1919-2019) Symposium

Mineralogical Society of America

1919 - Centennial - 2019

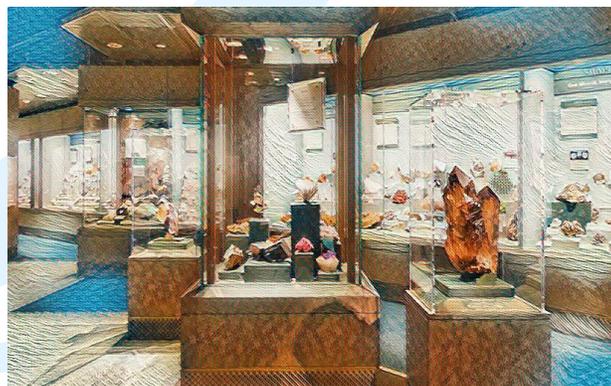


The Next 100 Years of Mineral Sciences June 20-21, 2019

MSA will hold a celebratory Centennial Symposium on June 20-21, 2019 at the Carnegie Institution for Science Building, located at 1530 P St NW, Washington, DC 20005. Fourteen theme colloquia will offer a vision for exciting new directions in mineralogy, geochemistry, and petrology as MSA begins its second century. Each theme colloquium will include two 20-minute presentations by invited speakers followed by five minutes of moderated audience discussion.

Lunches will be included with your registration fee, and attendees are invited for a private evening reception in the Janet Annenberg Hooker Hall of Geology, Gems, and Minerals in the US National Museum of Natural History, Smithsonian Institution. We thank the Gemological Institute of America for sponsoring this evening reception. Please join us for this once-in-a-century event!

http://www.minsocam.org/MSA/Centennial/MSA_Centennial_index.html Submitted to Micromineralogists of the National Capitol Area, Inc. Newsletter by Herwig Pelckmans





AFMS Code of Ethics



- I will respect both private and public property and will do no collecting on privately owned land without the owner's permission.
- I will keep informed on all laws, regulations of rules governing collecting on public lands and will observe them.
- I will to the best of my ability, ascertain the boundary lines of property on which I plan to collect.
- I will use no firearms or blasting material in collecting areas.
- I will cause no willful damage to property of any kind - fences, signs, and buildings.
- I will leave all gates as found.
- I will build fires in designated or safe places only and will be certain they are completely extinguished before leaving the area.
- I will discard no burning material - matches, cigarettes, etc.
- I will fill all excavation holes which may be dangerous to livestock. [Editor's Note/ Observation: I would also include wildlife as well as livestock.]
- I will not contaminate wells, creeks or other water supply.
- I will cause no willful damage to collecting material and will take home only what I can reasonably use.
- I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.
- I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.
- I will cooperate with field trip leaders and the se in designated authority in all collecting areas.
- I will report to my club or Federation officers, Bureau of Land management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.
- I will appreciate and protect our heritage of natural resources.
- I will observe the "Golden Rule", will use "Good Outdoor Manners" and will at all times conduct myself in a manner which will add to the stature and Public "image" of rockhounds everywhere.

**MEMBERSHIP APPLICATION OR RENEWAL
THE MINERALOGICAL SOCIETY OF THE DISTRICT OF COLUMBIA (MSDC)**

Family ~ \$25.00 per year. One address.

Individual ~ \$20.00 per year.

New * Renewal Dues are for Year _____ *

For new members who join in the last months of the year, membership will extend through the following year with no additional dues.

ANNUAL DUES – PLEASE PAY YOUR DUES PROMPTLY.

Pay at next meeting or mail to:

Mineralogical Society of DC
c/o John Weidner
7099 Game Lord Drive
Springfield, VA 22153-1312

Name(s) (First and Last) _____

Address _____

City _____ State _____ Zip: _____

Phone(s): Home/Work/Mobile _____

Email(s): _____

OK TO INCLUDE YOU ON CLUB MEMBERSHIP LIST?

Yes – Include name, address, phone, email.

If you want any information omitted from the membership list, please note:

Omit my: Email; Home phone; Work phone; Mobile phone; Address; Name

SPECIAL CLUB-RELATED INTERESTS? _____

Meeting Dates, Time, and Location: The first Wednesday of each month. (No meeting in July and August.) The National Museum of Natural History, Smithsonian Institution, 10th Street and Constitution Ave, Washington D.C. We will gather at the Constitution Avenue entrance at 7:45 PM to meet our guard who will escort us to the Cathy Kirby Room.