

Nittany Mineralogical Society Bulletin

Nittany Mineralogical Society, Inc., meeting in State College, Pennsylvania
Contact information on back page

December, 2018

Visit our web site: www.nittanymineral.org

Editor (see back page):
David C. Glick

**NOTE THE DATE:
Second Wednesday**

December 12th meeting:

**Annual Holiday
Dinner at
Quaker Steak &
Lube Restaurant
6:00 p.m.
Wed. Dec. 12
Please join us!**



On Wednesday, Dec. 12, 6:00 p.m., rather than our usual meeting, we'll have our Holiday Dinner at Quaker Steak & Lube Restaurant, 501 Benner Pike (across Benner Pike from the Nittany Mall), State College, PA 16801 in their "Corvette Room." There is actually a real Corvette suspended from the ceiling above part of the room. The entire restaurant is decorated in automotive memorabilia making the place and our event a lot of fun!

NMS will pay for appetizer plates to be shared by all those present, then attendees can order and pay for their own dinners. **Please join us!**

We will continue our past tradition where members can have a table at the dinner to sell minerals / fossils/ gems / jewelry / rock crafts. Sellers need to collect PA sales tax. NMS will charge a commission fee at 10% of the vendor's pre-tax sales. If you are interested in selling, please contact Bob Altamura (raltamura@comcast.net or 814-234-5011) as soon as possible to secure table space. NMS will also have t-shirts and other items for sale.



Minerals Junior Education Day set for Saturday, March 30, 2019

Frank Kowalczyk will be coordinating NMS's 24th Annual Minerals Junior Education Day. It is set for Saturday, March 30, at Central Pennsylvania Institute of Science & Technology at Pleasant Gap, the same location as the last few years. Please save the date and think about how you might help present this great event.

We are starting early to prepare for the 2019 event, seeking **volunteers** to help to present the stations, and ideas for stations which we (or you) might present. We also welcome advance donations of identified minerals, tumble-polished material, fossils, books, etc. which can be sold at child-friendly prices.

If you

- can volunteer to be in charge of a station
- can help with a station or in some other way
- have an idea for a station which teaches about some aspect of minerals, fossils, geology, gemstones, etc.
- have about 200 - 250 pieces of minerals, fossils, etc., which might be useful as giveaways at a station
- have items such as mineral specimens, fossils, books, etc., that we might sell at child-friendly prices,

please contact Frank J. Kowalczyk:
frank.j.kowalczyk@gmail.com
or 814- 238-8874

Weather Cancellation Policy

In case we experience active winter weather on a meeting date, our policy is to cancel the meeting only if evening classes at Penn State have been cancelled. That cancellation is publicized in the usual radio and TV service announcements.



Penn State notes that weather-related cancellation / closing information can be found at WPSU-FM, the news site <<http://news.psu.edu/>>, and <<http://www.facebook.com/pennstate>>



- Editor

Geo-Sudoku

by David Glick

This puzzle contains the letters ABELOPTUZ; one row or column spells an alternative December birthstone (two words). Each block of 9 squares, each row, and each column must contain each of the nine letters exactly once. The solution is on page 8.

L				Z	O			
			E	A				
		O	B	L				U
A			O		U		B	
B	O		A		Z	L		
E	Z		T	B		U		O
U			Z			E	O	
	E		P		B			
T	P						U	Z

NMS 10 Years Ago

In December 2008, we were planning for our holiday show & sale, and NMS's 15th anniversary (do the math for the present day). NMS members Andrew Sicree and John Passaneau were providing a series of articles and photographs on central Pennsylvania minerals to the Centre Daily Times newspaper in State College. The following poem was printed:

ISN'T IT A FACT

by Nellie Morgan

Rocks on the lawn, rocks in the shed,
Shovels and hammers under the bed.
Boots and knapsacks beside the door,
Clay and grit all over the floor.
Slabs and specimens on the chairs,
Boxes of crystals on the stairs.
A Rockhound's home is a disgrace,
But, Oh, it's such a happy place!

- via Diana Dare in the *SCRIBE 2008 CD-ROM*
(maybe the title should be Your Editor's House" - *Editor*)

NMS BOARD MEETING NOTICE:

NMS members are invited to attend Board of Directors meetings, which are generally held at 7:00 p.m. about two weeks prior to the general monthly meeting, although we do not meet every month. The next full meeting is planned for Monday, **January 7, 2019**. Members who would like to attend should contact president David Glick to verify time and place; those who would like to have their discussion item placed on the agenda should contact him at least one week in advance of the meeting.

FEDERATION NEWS

Nittany Mineralogical Society, Inc., is a member of EFMLS, the Eastern Federation of Mineralogical and Lapidary Societies, and therefore an affiliate of AFMS, the American Federation of Mineralogical Societies. The **Federations and our Society strongly encourage all members to read the monthly Federation Newsletters, available on their web sites**, which are linked from our web site, www.nittanymineral.org. We present brief summaries here in order to encourage readers to see the entire newsletters. There's a lot there!

The **EFMLS Newsletter** is now being distributed electronically; a link is available on our web site www.nittanymineral.org. In the December issue, President David Nock asks us about communication in the Federation. The safety article is about recognizing our personal limits, and perhaps finding safe ways to work around them. Dates and Speakers-in-Residence for 2019 Wildacres sessions are announced [see page 3 of this NMS Bulletin], and Spring (May 20-26, 2019) class list and a registration form are provided. Using Facebook for publicity is discussed. The philosophy and procedures for recognizing a Club Rockhound of the Year are presented.

The **AFMS Newsletter** is available by the same methods. The November issue outlines the web site contest. President Doug True reviews his background and discusses the purpose of our clubs: promoting our hobby. The Juniors article discusses working with younger kids - simplify the activities, but keep teaching the concept. Donations for the 2019 Endowment Fund drawing are invited, and several donations already received are illustrated. Specific methods which successfully increased show attendance using Facebook, etc., are presented.

In the December-January issue, Endowment Fund donations are illustrated. 2018 AFMS Scholarship honorees and awardees are announced. For the Eastern Federation, the honoree is Dr. David Warburton, associate Professor and Assistant Chairperson at Florida Atlantic University, Boca Raton, Florida. The two student honorees he chose to receive scholarships are:

- Mr. Alexander Modys, who is pursuing his Ph.D. degree in Marine Geosciences at Florida Atlantic University.
- Mr. Greg Cook, who is pursuing his Masters Degree in Geosciences at Florida Atlantic University.

-Editor

We Have Our Dates & Speakers

by Steve Weinberger, Wildacres Chair
from EFMLS Newsletter, December 2018

I'm delighted to let you know that we now have our dates for our two 2019 EFMLS Workshops at Wildacres and have obtained our two stellar Speakers-in-Residence as well.

Spring will be May 20 - 26 and will feature Renée Newman as Speaker. Fall will be September 2 - 8 and will feature Elise Skalwold as our Speaker.

Renée is a graduate gemologist (GIA) and is the author of a variety of consumer guide books to buying gems. Her books use a variety of photos from designers, lapidaries, jewelry artists and gem dealers, but she also takes many photos herself. More info about Renée can be found at <http://www.reneenewman.com/>.



Renée Newman,
Photo © dcgia.org

Our fall speaker is Elise Skalwold. She is an Accredited Senior Gemologist, independent researcher, educator, author, and photographer. She has served as Consulting Gemological Curator at her alma mater Cornell University (B.Sc. 1982)



Elise Skalwold
(Photo © Elise Skalwold)

and is contributing editor and author for the quarterly column G&G Micro-World featured in *Gems & Gemology*, the peer-reviewed scientific journal of the Gemological Institute of America (GIA). Ms. Skalwold is a graduate gemologist (GIA.). While living in Thailand she worked in the famous gem markets of both Chanthaburi and Bangkok and pursued studies at the Gem & Jewelry Institute of Thailand for which she

was subsequently elected a Fellow of the Gemmological Association of Great Britain (F.G.A.) in London.

Passionate about her work, Elise takes great pride in representing gemology as a relevant geoscience around the world and with having done so at Cornell University. She is an author and co-author of several books, scientific papers and articles. She has spoken to gemological conferences worldwide, including Scotland, Sweden, Tucson, at the GIA Carlsbad and alumni chapters, Sinkankas Symposium, and is a repeat speaker at the Rochester Mineralogical Symposium and the New York Mineralogical Club. Please visit her website at <http://nordskip.com/>. Elise will be accompanied by her wonderful husband, James Edward, a professional geologist.

The Wildacres Retreat is like no other place you've ever visited. Nestled atop it's own private mountain just off the Blue Ridge Parkway in Little Switzerland, NC, the privately held facility features comfortable bedrooms, well-equipped workshops, meeting rooms, a comfortable dining hall, and wonderful mountain vistas. Food is good, the air is clean and free from city noises, car horns, blaring radios, etc. What a wonderful place to rest, relax and learn.

The tuition for each week-long session is \$425 per person. This fee includes room and board, and gratuities for the permanent Retreat staff. Materials fees for the class or classes you take during the week are additional and vary with each class.

Spring class offerings are shown on the next page. Fall should be available in our next EFMLS News. Class size is kept at a low level in order to ensure proper attention from your instructor and availability of equipment. Registration for either session begins January 1 and we encourage you to do so early in order to have a good shot at being enrolled in the class or classes of your choice.

We've included a registration form [page 10 of the December EFMLS Newsletter] for your convenience. Please feel free to duplicate it to share with your club members.

At Wildacres....

We learn new skills!

We review previously learned skills!

We meet new people!

We have fun!!!!

Rhodochrosite

by Don Shurtz

from:

Chips and Chatter,
Pleasant Oaks Gem and Mineral Club of Dallas,
August 2017 (volume 51, issue 8),
(4th Place – 2018 AFMS Bulletin Editor’s Contest -
Original Adult Articles)

1991 as a rhodochrosite mine with financial investment and working agreements with the Collector’s Edge. It has produced some spectacular specimens. The Alma King, discovered in 1992, is the largest known rhodochrosite crystal and is displayed at the Denver Museum of Nature and Science. Also on display at the Denver Museum of Nature and Science is a pocket that was extracted from the Sweet Home Mine and reconstructed in the Museum. You walk through the pocket to enter the mineral exhibit. The pocket will be as close as you can get as the

Think of Colorado and minerals and you probably think about silver. One of the minerals that is sometimes associated with silver mining is rhodochrosite. In the early days of the Sweet Home Mine (opened 1873) near Alma, CO the miners would find red crystals. They did not know what the red crystal was, but they knew it was not silver based. The miners were allowed to bring out the red crystals and many used them for payment in salons and inns. Eventually the material made its way back east where it was identified as rhodochrosite. A lot of the red crystals ended up in the slag heaps outside the mine. A rumor has it that many years ago the streets of Alma were made with gravel from the residue of the Sweet Home Mine; and a lot of small crystals of rhodochrosite were found in the streets.

The Sweet Home Mine was shut down in 1967 due to the paucity of silver in the ore, but it was re-opened in



Rhodochrosite from Sweet Home Mine



Rhodochrosite from Wutong Mine

Sweet Home Mine as it was again shut down at the end of 2004. The area has been environmentally restored and only one building remains.

A similar story can be told of the Wutong Mine in China. It was opened in 1958 as a silver, zinc, and lead mine. Around 2000 there were rumors of rhodochrosite being found at the mine. In 2006 the Collector’s Edge formulated an agreement with the mine owners to start collecting the rhodochrosite specimens. In 2010 they opened a pocket with several large pieces including the world’s largest rhodochrosite specimen which became known as the Emperor of China. The Empress of China specimen was collected from the same Emperor Pocket. It is my understanding that the Emperor and Empress specimens are displayed in the China National Museum. Several other very nice specimens came out of the same pocket and were nicknamed the Princesses of China or the Wutong

Princesses. One of these specimens made it to the Perot Museum of Nature and Science. The Wutong Mine was closed in the summer of 2011 and remains closed.

Rhodochrosite is composed of manganese with a carbonate radical, $MnCO_3$. It has a Mohs hardness from 3.5 to 4.0. Because it is so soft it is not frequently fashioned into jewelry, but some cabochons and faceted stones have been produced. Rhodochrosite is found in many locations including the United States (Colorado), China, Bulgaria, Romania, South Africa, and Argentina. Stalactites and stalagmites composed of rhodochrosite come from Argentina. As you can see from the picture, when cut as a cross section they produce a slab that is nothing short of amazing. Rhodochrosite from South Africa, like the specimens



Rhodochrosite from South Africa

from Colorado, exhibit transparent crystals. Some of the specimens look like they could be from the Sweet Home Mine, but one huge difference is the cost – the Sweet Home Mine crystals cost significantly more for similar size pieces, primarily because specimens are actively being mined in South Africa but the Sweet Home Mine is closed.

References:

- Wikipedia, <https://en.wikipedia.org/wiki/>
- The Collector's Edge, <https://collectorsedge.com/>

Pictures:

- Rhodochrosite from Sweet Home Mine
- Rhodochrosite from Wutong Mine
- Rhodochrosite slab from Argentina
- Rhodochrosite from South Africa
 - All pictures by Don Shurtz of specimens displayed at the Perot Museum of Nature and Science



Rhodochrosite slab from Argentina

Editor's [Don Shurtz] comments: I took the pictures used in this article with a cell phone and, although the camera is good, it is not great. Focus seems to be one of my issues as evident by some of the pictures with this article. For some really great photos and more information on the Sweet Home Mine and the Wutong Mine, I would encourage you to look at "The Collector's Edge" website. The link to the Sweet Home mine is <https://collectorsedge.com/pages/sweet-home-mine-park-county-colorado-usa>. The link to the Wutong Mine is <https://collectorsedge.com/pages/the-wutong-rhodochrosite-mine-guangxi-zhuang-autonomous-region-china>. Both of these links will show some amazing photographs. I would have loved to include some of the photographs, but as you know, copyright laws must be observed.

Mineral of the Month - Sphalerite

by Sue Marcus

from:

The Mineral Newsletter,
The Northern Virginia Mineral Club Inc.,
September 2017 (volume 58, number 7)
(1st Place – 2018 AFMS Bulletin Editor's Contest -
Original Adult Articles)

Sphalerite (zinc sulfide, or ZnS) is relatively common, simple, and collectible, whether by silver pick (money) or self-collecting, even trading.

Chemical Affiliations

By simple, I mean that there are few chemical complications. Admittedly, sphalerite does have several varieties: Marmatite is the iron-rich, usually opaque black variety; cleiophane is the light yellow variety; and ruby blende is the orange to red variety.

In decades of collecting, however, I've come across the term "marmatite" only from mineral dealers and other collectors. Also, sphalerite is most commonly brown or cinnamon-colored, so these special varietal terms aren't used frequently.

If manganese was abundant and available during its formation, sphalerite might grade into alabandite (MnS). If there was sufficient iron, it might have become wurtzite (Zn,Fe)S.

There seems to be some debate about another potential polymorph, matraite (also ZnS). From what I could find, that name was discredited by the International Mineralogical Association in 2006, so matraite is not an approved mineral name or species.

Sphalerite is frequently found with the ore minerals

galena (PbS) and chalcopyrite (CuFeS₂). They often occur together due to the chemical affinity of their main cations—zinc, lead, and copper.

Etymology

The affinity in geological environments may have led to the naming of sphalerite, for the word is derived from the Greek term for "mistaken" or "treacherous." Miners thought that sphalerite was lead ore (galena) and then found that it lacked the lead they sought.

The name was finally bestowed by Ernst F. Glocker after earlier references to the material as "blende" or "zincum." "Blende" is still a miner's term for sphalerite.

Occurrence and Uses

Sphalerite most commonly occurs in hydrothermal deposits, where heated fluids have percolated through the host rocks and deposited the ore minerals.

Sphalerite is the main ore for zinc; most of this mineral is extracted for industrial use. The United States has 12 zinc mines in 5 states (2016 data, USGS).

Most zinc is used for galvanizing (coating steel or iron to prevent rust). Sphalerite is also an important source of byproduct cadmium, gallium, germanium, and indium.

Personal Connection

Now a digression.

This is a mineral that helped inspire my career in geology. As a kid, I was given a hand-me-down mineral collection, and someone suggested that I contact Dr. Edwin Roedder to identify what was what. I later learned that Dr. Roedder was a very eminent mineralogist. He was the pioneer investigator of fluid inclusions in minerals, discerning that the inclusions held information about the geologic history of the surrounding mineral and rocks.

At the time, however, I was too young to know enough to be awed by Dr. Roedder. Every few weeks, we'd visit his home in Bethesda, MD, and he'd quiz me. Often, if I could identify the specimen, I could keep it! I learned that the specimens were frequently sphalerite from the Tri-State Mining District (Missouri/Kansas/Oklahoma). So I learned to detect and admire many variations of sphalerite.

Localities

Along with specimens from the tristate region, the United States is known for stunning specimens from the Elmwood Mine and similar localities in Tennessee. These sites produce lustrous, sometimes translucent rich-brown-toned well-formed crystals, some with equally beautiful calcite and galena crystals.



Sphalerite from Penfield, Monroe County, NY.

Photo: Bob Cooke.

Everyone should have a sparkling specimen of mid-western sphalerite in her or his collection. My best collecting trip was led by Barry Remer, with Frank Hissong and me along for comic relief, to a limestone quarry in Danville, KY. For one short day, we collected some very nice fluorite, sphalerite, and calcite specimens—lovely and *heavy!*

The United States doesn't have all the best sphalerite. The Mandan ore fields of Bulgaria produce unusual green sphalerite crystals that can be translucent in the best specimens. Traces of cobalt cause the green color. Peru is the source of many lovely sphalerite specimens, notably rare lustrous red crystals. Similar brilliant specimens have also come from China.

Schalenblende is a rock with bands of massive sphalerite and wurtzite, usually with galena or pyrite. It is sold in attractive polished slabs. Germany, Poland, and other parts of central Europe are the most common sources.

Mindat includes more than 5,300 photos of sphalerite, indicating that this is a photogenic as well as familiar mineral. Many apparently brown sphalerite crystals benefit from strong backlighting when photo-graphed—they may show their reds or yellows.

The Franklin–Sterling Hill, NJ, deposits are noted for fluorescent specimens. Before becoming famous mineral-collecting localities, they were huge zinc orebodies that were mined by the New Jersey Zinc Company. The sphalerite found there fluoresces either in blue or in orange-to-yellow colors; some specimens also phosphoresce.

From micros to macros, sphalerite can appeal to everyone, even lapidarists. Bulgaria, China, Peru, and Spain are sources of sphalerite suitable for faceting. Although sphalerite can be styled into jewelry, its relative softness and brittleness make it a poor choice for normal wear. Some faceted stones exhibit a range of hues, for example from yellow to orange-red, making them attractive despite their delicacy.

Technical details:

- Chemical formula ZnS or (Zn,Fe)S
- Crystal form Isometric
- Hardness 3.4–5
- Specific gravity 3.9–4.1
- Color Brown, black, cinnamon, green, yellow
- Streak White for pure material, browner if material contains more iron



Schalenblende, Olkusz District, Poland. This 2-inch-high slab of schalenblende probably consists of layers of galena (bottom), sphalerite and wurtzite, and marcasite (top). The marcasite formed last and is slowly disintegrating. Photo: Tom Tucker.

- Cleavage Perfect in at least three directions (depends on source)
- Fracture Uneven to conchoidal
- Luster Resinous, adamantine
- Fluorescence Sometimes. When fluorescent, typically orange, sometimes blue

Sources

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<https://en.wikipedia.org/wiki/Sphalerite>



Some Upcoming Shows and Meetings

Our web site <http://www.nittanymineral.org> has links to more complete lists and details on mineral shows and meetings around the country. See www.mineralevents.com for more.

March 2-3, 2019: Earth Science, Gem and Mineral Show, by Delaware Mineralogical Society. New Location: DoubleTree by Hilton, 4727 Concord Pike (Rt 202), Wilmington DE 19803. Sat. 10-5, Sun. 11-5. Information and coupons at <http://www.delminsociety.net>

March 23-24, 2019: 50th Annual Gem and Mineral Show sponsored by the Che-Hanna Rock & Mineral Club. Wysox Vol. Fire Co Social Hall, 111 Lake Rd; Wysox, PA 18854. Sat. 9-5, Sun. 10-4 <http://chehannarocks.com/show.html>

March 23-24, 2019: AFMS and Midwest Federation Convention, Cedar Rapids, Iowa.

March 30-31, 2019: Philadelphia Mineral Treasures and Fossil Fair, by Philadelphia Mineralogical Society and Delaware Valley Paleontological Society. Lulu Temple, 5140 Butler Pike, Plymouth Meeting PA 19462. Sat. 10-5, Sun. 10-4. <http://www.phillyrocks.org/mineral-show/>

March 30-31, 2019: North Jersey Gem, Mineral & Fossil Show, by North Jersey Mineralogical Society. Midland Park High School, 250 Prospect St., Midland park NJ. Sat. 10-5, Sun. 10-4. <http://www.nojms.webs.com>

May 18, 2019: Earth Science Show & Sale, by The Rock & Mineral Club of Lower Bucks County, PA. Christ United Methodist Church, 501 Wistar Rd., Fairless Hills PA. Sat. only, 9-3.

June 1-2, 2019: EFMLS Convention and Orange County Mineral Club Show, Monroe, New York. (EFMLS meeting Friday evening May 31)

Geo-Sudoku Solution

L	A	E	U	Z	O	P	T	B
P	U	B	E	A	T	O	Z	L
Z	T	O	B	L	P	A	E	U
A	L	T	O	P	U	Z	B	E
B	O	U	A	E	Z	L	P	T
E	Z	P	T	B	L	U	A	O
U	B	L	Z	T	A	E	O	P
O	E	Z	P	U	B	T	L	A
T	P	A	L	O	E	B	U	Z

INVITE A FRIEND TO JOIN THE SOCIETY
 The Nittany Mineralogical Society prides itself on having among the finest line-up of speakers of any earth sciences club in the nation. Everyone is welcome at our meetings. If you'd like to be part of our Society, dues are \$20 (regular member), \$7 (student rate), \$15 (seniors), \$30 (family of two or more members, names listed). Those joining in March or later may request pro-rated dues. Your dues are used for programs and speakers, refreshments, educational activities, Bulletins, and mailing expenses. Please fill out a membership form (available at www.nittanymineral.org), make checks payable to "Nittany Mineralogical Society, Inc." and send them in as directed, or bring your dues to the next meeting.
We want to welcome you!

CONTACT INFORMATION
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The **Bulletin Editor** will welcome your submissions of articles, photos, drawings, cartoons, etc., on minerals, fossils, collecting, lapidary, and club activity topics of interest to the members. Please contact:
 David Glick E-mail: xidg@verizon.net
 209 Spring Lea Dr. phone: (814) 237-1094 (h)
 State College, PA 16801-7226

Newsletter submissions are appreciated by the first Wednesday of the month. Photographs or graphics are encouraged, but please do not embed them in word processor files; send them as separate graphics files (TIF, or good to highest quality JPEG files, about 1050 pixels wide, are preferred). Please provide captions and name of photographer or artist.

Visit us at www.nittanymineral.org