Nittany Mineralogical Society Bulletin

Nittany Mineralogical Society, Inc.
P.O. Box 10664
State College PA 16805

February, 2015 **Visit our web site: www.nittanymineral.org** *Editor (see page 8): David C. Glick*

February 18th meeting:

Interesting mineral occurrences in China

by

Dr. Ryan Mathur

Geology Department, Juniata College

Our February meeting will be held Wednesday the 18th in room 114 (large auditorium) of Earth & Engineering Sciences Building on the west side of the Penn State campus in State College, PA. Maps are available on our web site.

6:30 to 7:30 p.m.: Social hour, refreshments in the lobby
7:30 to 8:00 p.m.: announcements, questions, answers
about 8:00 p.m.: featured program

The event has free admission, free parking, free refreshments, and is open to all; ***parents/guardians must provide supervision of minors.*** *Bring your friends and share an interesting evening!*

Over the past three years I have spent several weeks working in China developing mineral exploration techniques as well as monitoring contamination with different isotopes in waters, rocks and plants that occur near ore deposits. In this presentation I will provide an overview of the areas visited (Tongling, Qilian Mountains, Dexing and more) along with some of the information that has been gathered about the locations. From a mineralogical perspective, the deposits possess a variety of copper-, molybdenum- and tungsten-rich minerals. The process from exploration to extraction to environmental monitoring will be discussed.

Molybdenite ore, Qiling belt, China. *R.Mathur photo*

Our annual event for kids:

Minerals Junior Education Day - April 11

Registration will start mid-March for time slots starting 9:30 a.m. to 1:00 p.m. **on April 11**

Spread the word!

Our annual Minerals Junior Education Day is fun and rewarding for kids and parents who attend, as well as NMS volunteers who present the event. The event will be held at the same location as last year:

Central Pa. Institute of Science & Technology
540 North Harrison Rd
Pleasant Gap, PA 16823

Students in grades 1-8 and their parents are invited to come and learn about minerals, crystals, gemstones, and fossils. At this event, kids get an empty egg carton when they check in, then go to a series of stations, each concerning a different aspect of mineral properties, rocks or fossils. They learn about the topic from a demonstration or discussion, and receive a properly labeled specimen or educational item related to the topic, so they gather a whole collection in their egg carton. We're planning the stations right now, and will include a sales table at kid-friendly prices.

PLEASE tell your friends and relatives and their kids to save the date - Saturday, April 11!

We'll have more information in our March Bulletin

We are seeking **volunteers** to help to present the stations, and ideas for stations which we (or you) might present; contact Dave Glick (see page 8). We also welcome advance donations of identified minerals, tumble-polished material, fossils, books, etc. which can be sold at child-friendly prices.

For updates, directions and maps, see **www.nittanymineral.org**

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 reports that WPSU-FM and Penn State Live <http://live.psu.edu/> are "the official sources for weather-related delay or cancellation advisories at Penn State's University Park campus."

-Editor

ATTENDING THE FEBRUARY MEETING?
Donations of labeled **door prize specimens** are invited.
Your donated snacks and drinks will be welcomed.
Bring a friend!

Other events of interest for youths and families:

Exploration-U State College: Community Science Night

from their web site
http://science.psu.edu/outreach/exploration-u

Exploration-U State College will be held on Tuesday, March 24th, 2015 from 6-8 pm at the State College South High School Cafeteria.

Formerly known as "Space Day" and "Bio Days," Exploration-U: State College is a free, one-day event for the general public in State College. In collaboration with State College area school district teachers and students who come to display work and interest in science, technology, engineering, and math (STEM), the Penn State faculty, undergraduate and graduate students showcase their research or general science topics with hands-on activities for families and children. Each year, over 600 people attend this 2 hour STEM extravaganza! Youth groups also attend, such as scouts, 4-H, and community organizations are invited to explore STEM fields.

Funds for this event originally came from NASA, which provided support for astronomy-themed presentations. However, this program is now funded through other means. These costs includes accommodating the planetarium and food.

Response for this event is always overwhelmingly positive, with numbers of participants growing each year.

EMEX: Saturday March 28

Penn State **Earth & Mineral Sciences** Exposition

Sign up later in January: http://www.ems.psu.edu/emex

Annual Open House. Penn State's College of Earth & Mineral Sciences' EMEX 2015 will take place on March 28, 2015 from 7:45 a.m. to 2:00 p.m. All high school students, current Penn State students, and transfer students who are considering an EMS major are invited to attend. Discussions, College tours, demonstrations, and speakers.

NEWS FROM THE FEDERATIONS

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. We present brief summaries here in order to encourage readers to see the entire newsletters.

The **EFMLS Newsletter** is available through the link on our web site **www.nittanymineral.org**, or remind Dave Glick to bring a printed copy to a meeting for you to see. The February issue announces a new scholarship for a club member to attend Wildacres in 2016, based on the club's newsletter including materials about Wildacres during the preceding year. A Wildacres registration form and class descriptions for the Fall session (August 24-30, 2015) are provided. President Merrill Dickinson follows up his discussion about the term lengths proposal to be voted on at the EFMLS Annual Meeting. The 65th Annual EFMLS Convention will take place on March 28-29, hosted by the Catawba Valley Gem & Mineral Club in conjunction with their Show at the Hickory Metro Convention Center, Hickory, North Carolina. The safety article discusses first aid kits and keeping their contents up-to-date and clean. There is a call for donations for the annual auction at the convention, with proceeds benefitting the Eastern Foundation Fund; monetary donations can also be made to the Fund. Likewise. Donations are requested for the AFMS Scholarship Fund for graduate students in geological sciences. Club Rockhounds of the Year are announced and honored, and more nominees for that award are invited. The Historian's column, on mineral collecting in the 17th and 18th centuries, is reprinted in this Bulletin.

The **AFMS Newsletter** is available by the same methods. The February issue begins with color illustrations of several items newly donated for the Endowment Fund drawing at the convention in Austin, Texas, on October 24. President Marion Roberts says hello and mentions his plans to travel to various Federation shows. The 2015 (video) program competition is outlined. John Martin, Chair of the Legislation & Conservation Committee, notes that there are at least three new committee chairs on House of Representatives Committees that have a direct bearing on public lands access and rockhounding. Three programs from the 2012 Geo-fair in Cincinnati are available on DVD from the Midwest Federation for a $20 donation each. Many Club Rockhounds of the Year are introduced. Please see the web sites for the complete Newsletters. There's a lot there!

- Editor

Eastern Federation Convention and Unifour Gem and Mineral Show March 27-29, Hickory, NC

from the
Welcome Letter to EFMLS Delegates
from the CVGMC/Catawba Valley Gem and Mineral Club
at http://www.amfed.org/efmls/conventionp.htm

The Catawba Gem and Mineral Club welcomes all delegates and guests to our 45th annual Unifour Gem and Mineral Show to be held in association with the annual EFMLS Convention in Hickory, NC on March 27-29, 2015.

The show is held at the Hickory Metro Convention Center at 1960 13th Ave Dr SE. exit 125 from I-40 east/west. Friday and Saturday show hours are 9 am to 6 pm, and Sunday show hours are 10 am to 5 pm. Over 20 quality vendors will have an array of merchandise that include minerals, fossils, meteorites, finished and unfinished jewelry, beads, and more….hourly door prizes are offered as well as demonstrations of faceting/cabbing/wire wrapping, kiddie mini-mine, hands on exhibits for children, educational talks for school groups – competitive and non-competitive exhibits will be shown for the public's education. The special feature exhibit will be from the collection "Somewhere in the Rainbow" by the generosity of its owners in Arizona which will include exceptional one-of-a-kind faceted gems and jewelry. Several North Carolina gems including emeralds and hiddenites will be available as part of this collection.

EFMLS Convention Hotel: the Hampton Inn is well suited since it is adjacent to the Hickory Metro Convention Center and a walk of one to two minutes. It is located at 1956 13th Ave Dr SE. The hotel has all the amenities that are expected and useful. The staff is pleasant and efficient. A block of rooms has been set aside for convention delegates at $104 plus tax. Mention that you are with the EFMLS Convention when calling 828.624.2000.

Hickory is in the foothills region of North Carolina between the piedmont and mountain sections – a medium sized town with a diverse economy, a liberal arts 4 year University, and an ideal location which is equidistant from Charlotte (a major financial and travel hub), Winston Salem (with a major university and tertiary medical center), and Asheville (historic and a favorite destination of many tourists).

At left: Spodumene, var. hiddenite, from Hiddentite, Alexander County, NC. "A truly outstanding MINIATURE of electric green Hiddenite, which is spodumene with a rich green color caused specifically by chromium content." Image by Rob Lavinsky, iRocks.com – CC-BY-SA-3.0 license.

EFMLS Convention Schedule of Activities:

Friday, March 27
…field trip to Reel Amethyst mine - $25 fee
…meet in front of Hampton Inn at 8 a.m.
Friday, March 27
… Cracker Barrel @ Hickory Metro Convention Center at 5 p.m.
Friday, March 27
…annual business meeting @ Hickory Metro Convention Center at 7 p.m.

Saturday, March 28
…Auction @ Hickory Metro Convention Center @ 1:30

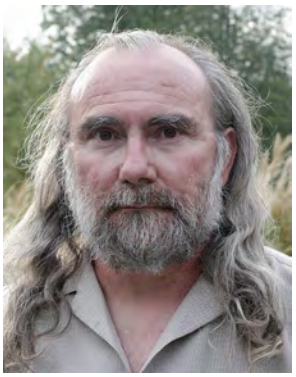
Saturday, March 28
…Awards Banquet @Hickory Metro Convention Center at 7 pm (Pulled pork BBQ and BBQ chicken/potato salad/baked beans/cold slaw/apple cobbler …$28)

Sunday, March 29
…Editor's breakfast @ Hampton Inn at 8:30 a.m.

45th Annual Unifour Gem and Mineral Show Schedule
Friday, 9 a.m. – 6 p.m.
Saturday, 9 a.m. – 6 p.m.
Sunday, 10 a.m. – 5 p.m.

Theodore Roosevelt (second from right) visiting a North Carolina mineral mine, date & location not specified. Used under CCS 2.0 Generic license; posted by Government & Heritage Library, State Library of NC

MINERAL COLLECTING



by Andy B. Celmer, EFMLS Historian

from
EFMLS Newsletter 52:4,
February, 2015

17th & 18th Century

HiYa Friends,

Those of you who can still remember last month's story will know that systematic mineral collecting begins in Ernest, (Germany?) in the 16th century. Minerals are classified by physical properties such as density, color, luster, transparency, taste, odor and shape. This is a good start, but far from our eventual classification system based on chemistry. Chemistry is not yet sufficiently developed at this time and is not an appropriate topic for a rock newsletter anyway. Major collections come into existence that specialize in minerals.

Right on schedule, the 17th century is out and about with its own idea of a proper collection. A proper collection includes plants, animals, minerals, art and instruments. Plant, animal and mineral specimens from all over the world are readily available. This contributes to an increase in the number of collections, but also to a lack of systematic classification and critical examination. "But wait Andy B," you say, "What about Pliny the Elder?" I dealt with that last month, pay attention!

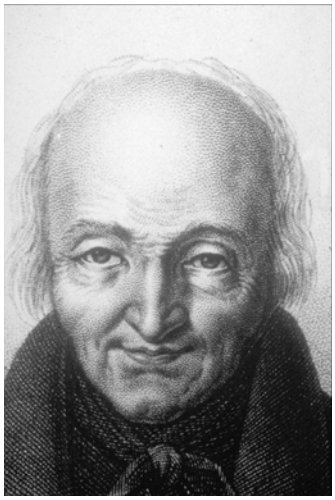
The 17th century says,"Where Does the time go?" as the 18th century walks in the room. Two important works on collecting and a review of existing collections are published for the layman, generating additional interest. Rules are published for museum visitors to heighten their intellectual enjoyment of a collection. General collections are sorted into categories as specialized mineral collections, based in beauty and science, emerge once again. Sources of minerals expand further and the size of collections increase to new highs.

John Stuart (1713-1792), the Earl of Bute, is reported to have a collection of 100,000 specimens. He should not be confused with the 'Duke of Earl', aka Gene Chandler and his 1962 No. 1 hit of the same name. The Duke of Earl does not appear to have a mineral collection. Did I digress?

Collections of 10,000 to 20,000 specimens are known to exist and a few in the 30,000 to 40,000 range. Keep this little bit of information near at hand the next time friends and family try to have you committed due to your relatively modest collection. However, a large collection does not mean a high quality collection. A good example would be my sand collection containing millions of specimens.

Jean Rome de l'Isle (1736-1790) is one of the founders of modern mathematical crystallography. He publishes his first technical work on crystallography in 1772, wherein he describes 110 crystal forms. This is a significant increase of the 40 crystal forms described by Linnaeus. Jean Rome de l'Isle publishes a 4 volume work on crystallography in 1783 describing the consistency of interfacial angles discovered by his assistant, Arnould Carangeot. Carangeot goes on to invent the contact goniometer, a device that makes precise measurements of crystal angles. This information and data give the 1783 work a solid mathematical footing, however Jean Rome de l'Isle has only a vague understanding of symmetry, not recognizing that the cube and the octahedron share the same internal symmetry. He believes, as do others, that external crystal form should be the basis of a mineral classification system; unfortunately many minerals have several external crystal forms. But worry not dear reader, as Yoda said to Obi wan in 'Star Wars,' "There is Another!" Jean Rome de l'Isle's collection resides in the Natural History Museum in Paris.

René Just Haüy (1743-1822) is considered the other founder of mathematical crystallography. He discovers his talent for natural science through botany. Attending a lecture on mineralogy by Louis Daubenton, Hauy awakens a physics-based interest in minerals and crystals. He finds Jean Rome de l'Isle's 1772 work on crystallography wanting and Haüy wonders what laws define the crystal shape of minerals. He acquires a mineral collection and visits the collections of Paris.



At the collection of Jacques Defrance in 1779, he accidently drops some prismatic calcite crystals. We all know what happens next! The calcite crystals shatter into rhombohedral cleavage pieces. Could the cleavage rhombs reflect the internal structure of calcite regardless of the external crystal shape? As the Firesign Theatre says, "Could this be the solution to our problem, both personal And Scientific?"

Haüy went home and started breaking his calcite crystals of scalenohedrons, rhombs, bipyramids, plates and prisms. Don't Try This at Home Kids! Your friends and family will have the proof they need to commit you! But I digress! The calcite crystals all broke into cleavage rhombs! Soon Haüy determines that stacking cubes and rhombs, as well as other basic units, produces many external crystal forms! Further work in geometry shows his theory is mathematically precise and consistent. No one has seen his work at this point. When his fellow scholars see his work, they convince him to present it to the Academy of Science in Paris. He is elected to the Academy of Science in 1783 and publishes his work in 1784.

Remember Jean Rome de l'Isle? His work is published in 1783 and within a year it is made obsolete by Haüy. Jean Rome de l'Isle is not a happy camper and he reacts rather badly. Haüy's work on crystallography is still one of the great accomplishments in the history of science.

René Just Haüy's collection resides in the Natural History Museum in Paris. More than 6,000 of his specimens still have their original labels in Haüy s handwriting.

Well, that's enough for now. Some may wonder why the collections of the 17th century are so meager. I would refer you to the documentary 'Rollerball' (1975), wherein the computer with bubble drive storage capability deletes the events of the 17th century. The bubble drive is the precursor of the cloud storage system. What is the moral of this storage? Don't trust the cloud!

Statue of René Just Haüy in the Galerie de Minéralogie et de Géologie, Muséum National d'Histoire Naturelle, Paris, France. *Image by user Litlok, used under CCA-SA 3.0 Unported license.*

Model of quartz (rock crystal). One of the 597 pearwood crystal models made by Abbot R.J. Haüy of Paris, which Martinus van Marum purchased for Teylers Museum, Haarlem (the Netherlands) between 1802 and 1804. *Image: Teylers Museum, Haarlem, the Netherlands, used under license CCA-SA 3.0 Netherlands.*

Geo-Sudoku

by David Glick

This puzzle contains the letters ABDELMOTY, and one row or column spells a class of minerals which may be included in Dr. Ryan Mathur's talk at our February meeting. 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.

		E	M	T				Y
	T			O		M		
M	O		Y					
		T			A	O	E	M
E	M		D					T
	Y		T		M		A	
T	E		L		B			O
D		O	E			T		
A			O		T			L

Scenes from Wildacres, where Eastern Federation's workshops are held twice a year. See http://www.efmls-wildacres.org/

Classifieds

Ads may be submitted to the Editor (see p. 8)

FOR SALE: This sturdy, three-legged cast aluminum lapidary unit is made by Gemlap Equipment, model 5-A. Its tub is 4 inches deep, and will hold any grinding wheel or platen up to 2-inches thick and 10 inches in diameter. Its center ball bearing mounted spindle is 0.5 inches in diameter, with a 0.5-20 UNF fine thread (20 threads per inch.). It is driven from below by any conventional pulley system. Old but in excellent condition. $25; proceeds go to NMS. Contact Jim Garthe, jwg10@psu.edu, (814) 667-2409.

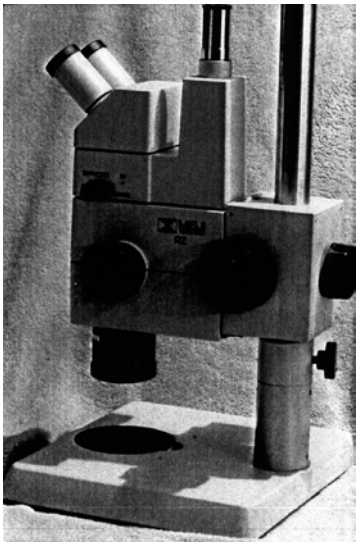
FOR SALE: Long-time Pennsylvania collector John 'Pen' Ambler in Hollidaysburg has books, specimens and more for sale. Pen reports: "I have some 10 – 15 cartons of books on minerals and mineral related subjects. My cataloged collection consist of upwards of 6,000 specimens some of which were the Ed Carper collection. The specimens are cabinet, small cabinet, hand-sized, miniature, thumbnail and micro minerals. Many of the minerals are PA and eastern U.S.; however, it is a varied collection. There are lapidary materials (slabs and some bulk); limited fossils; tumbled stones including PA amethyst; UV materials and equipment; supplies (boxes, etc.)." Please contact Pen by email: bridger@atlanticbb.net

FOR SALE: 2 Homemade Lapidary saws for sale - 14" and 18". Both come with working motors, arbor, belt, pulley, rock clamp/carriage, and a blade. Both are mucked-out and ready to move. Both could use a little TLC. For more info contact Mike Zelazny at fabricatefilm@yahoo.com

FOR SALE:

Microscope & Accessories, Mineral Specimens, Crystal Models. Avid collector wants these to be purchased by someone who would appreciate them. Contact Frank & Gail Beall, 724-789-7290. See much more complete listing at **www.nittanymineral.org/beall.pdf**

Meiji RZ-B Trinocular Microscope system: two 10x eyepieces plus zoom yield 7.5x to 75x viewing. Wide field. High stand with long focus distance allows viewing, for instance, into a "cantaloupe-size" geode. A **photographer's dream**, purchased and assembled specifically for photographing microminerals for publication.



Equipped for photography with trinoc tube for mounting separate photo "eyepieces" (included) and camera (not included) at the same time. Iris diaphragm to control depth of field. Separate Fiber-Lite brand FL-181 variable-intensity illuminator with halogen bulb and two flexible fiber-optic arms about 22" long. Focusing lenses (change the lighting spot from 1/4 inch to inches in diameter without moving the arms) and filter holders on the illumination arms. Built-in cooling fan; anti-vibration table (over 100 lbs) built according to specifications from Jeff Scovil to prevent blurred photos caused by fan vibration. Camera is mounted via T-mount which would need to be ordered (under $50) for the user's specific interchangeable-lens aperture-priority camera model.

Customized case, manuals, calibration slide, spare bulbs, etc. are included. Exceptionally high quality microscope, used for one project in 2004-5 and virtually unused since then. Paid $6,000 in 2004, would cost several times that today. **Only reasonable offers, please.** It will still be a bargain for the right person.

Mineral Specimens: High-quality specimens, many already sold; still some very good specimens available at **VERY REASONABLE PRICES** - considerably less than I paid for them over 10 years ago:

Tetrahedrite, Zacactecas, Mexico, 5x4"

Pyrite & marcasite, Idarado Mine, Ouray, Colo. Ex-Carnegie Museum, was on display for nearly two decades. 10.5 x 6"

Mesolite, Nasik, India 2.75", paid $120.

Barite on quartz, Old Mines, MO. 4x3"

Tetrahedrite, Peru 5x4", paid $350.

Smoky quartz, amazonite, albite. Albany NH. Ex-Carnegie Museum. 4.5x3"

Andradite garnet, Calaveras County CA. 5.5x3.5"

Elbaite (tourmaline) on albite Var, cleavelandite, Minas Gerais Brazil. Ex-Carnegie Museum. 9x3.5"

Quartz pseudo after barite, Ouray CO, Ex-Carnegie Museum Hillman Hall display 7x6"

Calcite & strontianite, Winfield PA, 6.5x5", Ex-Carnegie.

Rhodochrosite, quartz & tetrahedrite, Rob's Pocket, Sweet Home Mine, Alma CO. 3x2". 2014 appraisal $2,300.

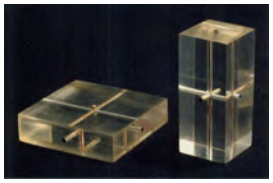
Ruby, garnets, amethyst, selenite, apophyllite & stilbite, galena & calcite, others.

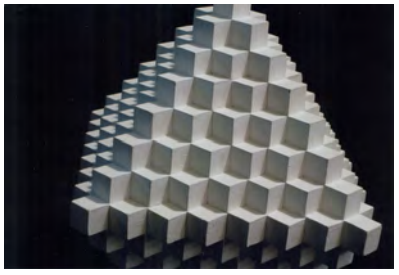
Extensive life-long **collection of pyrite specimens**, many still available. A number of rare or unusual forms and from a variety of locations, a variety of sizes from thumbnail to several pounds. Stored in several sealed containers with desiccant.

Scroll-sawed art replicating mineral specimens: 16x12" framed calcite, 16x12" framed iron pyrite.

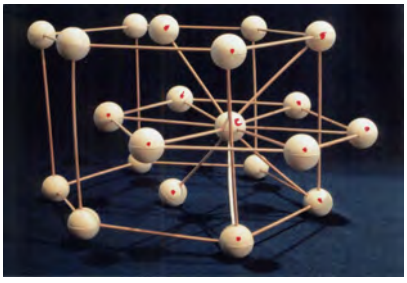
General collection of approximately 500 mineral specimens in plastic "keeper" boxes; some fossils and cave formations. Thumbnail to almost hand-size. Being sold at a **low price** because I have no room for storage. Well worth it for any new/enthusiastic collector that hasn't a lot of money to spend on a single specimen. There are many, many **beautiful specimens** in this collection.

Crystal Models: Plexiglas, wood, cast acrylic, ball-and-stick, folded paper. These are excellent teaching materials for understanding basic crystallography. They would be very useful to a club, providing "hands-on" teaching materials to bring a difficult subject to understanding. The models were hand-made, taking much work to make accurate 3-dimensional representations of things illustrated in mineralogical books and articles. There is a lot to learn by having a model that you can hold in your hand - it's easier than trying to envision the structure from a drawing! These are invaluable to seeing relationships in crystals - especially those that exhibit more than one form simultaneously, as most crystals do. I have examples in my pyrite collection, for instance, which exhibit as many as 5 forms in one specimen! It would have been difficult to identify the forms involved if I hadn't the paper "origami" models, showing the Miller indices on the faces, as a reference.





The ball-and-stick models reveal secrets, too. Why does a diamond cleave the way it does? Why are there "holes" in quartz that could contain ions to cause its different colors? Many things can be demonstrated with the molecular models.



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 7-8, 2015: Annual Gem, Mineral & Fossil Show, by Delaware Mineralogical Soc. Delaware Technical & Comm. College, 400 Stanton-Christiana Rd., Newark, DE http://www.delminsociety.net/marchshow.htm

March 21-22, 2015: Annual Jewelry, Gemstones, Minerals & Fossils Show, by Franklin County Rock & Mineral Club. Hamilton Heights Elementary School, 1589 Johnson Rd., Chambersburg PA

March 27-29, 2015: EFMLS Convention and Show, Hickory, North Carolina. Field trips. See page 3. http://www.amfed.org/efmls/conventionp.htm

March 28-29, 2015: Philadelphia Mineral Treasures and Fossil Fair, by Phila. Mineral. Soc. & Delaware Valley Paleo. Soc. Lulu Temple, 5140 Butler Pike, Plymouth Meeting, PA

March 28-29, 2015: Rock & Mineral Show by Che-Hanna Rock & Mineral Club. Athens Township Vol. Fire Hall, 211 Herrick Ave., Athens PA. http://www.chehannarocks.com/show.html

April 18-19, 2015: North Museum Rock, Mineral & Fossil Show, by North Museum of Natural History & Science. Farm & Home Center, 1383 Arcadia Rd. Lancaster PA

May 2-3, 2015: Treasures of the Earth 2015, Annual Show & Sale by The Mineralogical Society of Northeastern Pennsylvania. Oblates of St. Joseph, 1880 Hwy 315, Pittston PA 18640. Sat 10-5, Sun 10-4.

May 9, 2015: South Penn Spring Rock Swap— South Mountain Fairgrounds-1.5 miles West of Arendtsville, PA on Route 234. Sat. only, 8:00 a.m.- 3:00 p.m.

May 16-17, 2015: World of Gems and Minerals Show, by Berks Mineralogical Soc. Leesport Farmer's Market, Route 61, Leesport, PA.

June 6, 2015: Spring Mineralfest, by Penna. Earth Sciences Ass'n. Macungie Memorial Park, Poplar St., Macungie PA. Sat. only, 8:30-3:00.

Geo-Sudoku Solution

B	A	E	M	T	L	D	O	Y
Y	T	D	A	O	E	M	L	B
M	**O**	**L**	**Y**	**B**	**D**	**A**	**T**	**E**
L	D	T	B	Y	A	O	E	M
E	M	A	D	L	O	B	Y	T
O	Y	B	T	E	M	L	A	D
T	E	M	L	A	B	Y	D	O
D	L	O	E	M	Y	T	B	A
A	B	Y	O	D	T	E	M	L

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!

SOCIETY OFFICERS

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814-867-6263 (h) e-mail: sicree@verizon.net
Membership Chair: David Glick (see above)
Programs: Dr. Duff Gold 865-7261(o), 238-3377(h)
e-mail: gold@ems.psu.edu
Door Prizes: *volunteer needed!*
Refreshments: *volunteer needed!*
Facebook: John Dziak, e-mail: jjd264@psu.edu

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. If you include photographs or graphics, 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.

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