

THE ROCKFINDER

Michiana Gem & Mineral Society
Tom Noe, Editor
305 Napoleon
South Bend, IN 46617



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FEBRUARY, 2008

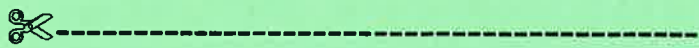
MICHIANA GEM & MINERAL SOCIETY

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The purpose of the Michiana Gem & Mineral Society is to promote the study and enjoyment of the earth sciences and the lapidary arts, and to share lapidary knowledge and techniques.

General meetings are held the fourth Sunday of each month, 2:00 PM, EST, at Our Redeemer Lutheran Church, 805 S. 29th St., South Bend, IN. Regular exceptions include May (third Sunday), July (no meeting), August (club picnic) and the November/December meeting and Christmas party. Board meetings are held before the general meetings. The annual club show is in late August.



Yearly Membership Dues (Payable by December 15)

- _____ Individual \$15.00 per year
- _____ Family \$20.00 per year
- _____ Junior \$1.00 per year
- _____ Subscriber \$7.50 per year

Please indicate areas of special interest. (To be published in *The Rockfinder*).

- General Geology _____ Beads _____
- Gems & Minerals _____ Fossils _____
- Cabochons _____ Field Trips _____
- Faceting _____ Crystals _____
- Carving _____ Micromounts _____
- Other _____ Jewelry Making _____

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- Show Chair Marie Crull 574-272-7209

The Michiana Gem & Mineral Society, a not-for-profit organization, is affiliated with the Midwest Federation of Mineralogical Societies and with the American Federation of Mineralogical Societies.

The Rockfinder is published monthly except July and August. Editor, Tom Noe, (ph. 574-289-2028). Co-editor, Herb Luckert, 221 Marquette Ave., South Bend, IN 46617 (ph. 574-282-1354). Reporters, Bob Heinek, Herb Luckert, club members.

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With my signature I hereby release the Michiana Gem and Mineral Society, Inc., and its individual members and the owners of any premises upon which I enter under permit granted to the society, absolutely free of any liability whatsoever, to my person or my property, and further I will respect the equipment and property of the aforesaid owners.

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Please send your dues and this form to
 Michiana Gem & Mineral Society
 c/o, Lana Wright, 24606 Rolling Oak Dr.,
 South Bend, IN 46628

THE ROCKFINDER

Newsletter of the Michiana Gem and Mineral Society

Volume 48, Number 2

February, 2008

Next Meeting:

Visitors are always welcome.

Date: February 24, 2008

Doors open at 1:30.

Meeting starts at 2 p.m.

Place: Our Redeemer Lutheran Church
805 S. 29th Street (29th & Wall)
in South Bend



Happy February, Everybody!

Program: Display and discussion! Amethyst is the theme, so bring in displays, specimens, stories, photos, etc. Anything to do with amethyst.

Refreshments: Jesse Zeiger, Kara Hodges, Flo Schuler

- Mar. 8-9: Geodeland Earth Science Club show, WIU Student Union, Macomb, IL.
- Mar. 15-17: Cedar Valley Mineral Society show, Teamsters Hall, Cedar Rapids, IA.
- Mar. 29-30: Badger Lapidary & Geological Society show, Monroe H.S., Monroe, WI.
- Mar. 29: Dearborn Club rock swap, Democratic Club, Taylor, MI.
- Apr. 4-5: Columbus Rock & Mineral Society show, Veterans Memorial, Columbus, OH.
- Apr. 5-6: Neville Public Museum Club show, Neville Public Museum, Green Bay, WI.
- Apr. 5-6: So. Illinois Earth Science Club show, Williamson County Pavilion, Marion, IL.
- Apr. 10-11: Indian Mounds Club show, Rogers Plaza, Wyoming, MI.
- Apr. 19-20: Chippewa Valley Mineral Society show, Expo Center, Eau Claire, WI.
- Apr. 26: Blossomland Gem & Mineral Society rock/mineral/fossil/etc. Swap 'n' Sell, St. Joseph-Lincoln Senior Center, 3271 Lincoln Ave., St. Joseph, MI. 10:00-4:00.
- May 17-18: Parma Lapidary Club (Cleveland), County Fairgrounds, Berea, OH.
- June 20-22: Lincoln Gem & Mineral Club 50th annual show & Midwest Federation Convention, Pershing Center, Lincoln, NE.**
- June 20-22: Northwest Federation Convention, Ontario, OR.
- June 27-27 California Federation Convention, Venture, CA.
- July 10-13: Wonderful World of Agates, U. of Wisconsin Fox Valley, Menasha, WI.
- July 27-29: Bloomington show and swap, County Fairgrounds, Bloomington, IN.
- Aug. 22-24: Our Own Michiana Gem & Mineral Society show, 4-H County Fairgrounds, South Bend, IN.**

KATHY'S COLUMN



Wasn't it grand to have such a good turnout of members in the January meeting. I even had members who could not make the meeting call me when I got home that day to say they would have come, except for some health issues. We look forward to their quick recovery and seeing them at the February meeting. Our snowbirds will soon return, too. After all, we are approaching the end of February and spring is just around the corner (Isn't it?)!

On a sad note, we lost one of our good friends, Kent Hoffman. Kent passed away January 28. Bob and I spoke with his wife Roberta, and she said Kent really enjoyed our club and his involvement as an active member for many years. We will surely miss him.

We have something to look forward to at the February meeting--first, a short in-service by Sue Brown, Midwest Federation state director, on the Midwest Federation and how it is effective to us. This is at the beginning of the meeting.

After the business meeting, for the program, we/you/us are to be it! David Peltz is having a show and tell featuring February's birthstone, amethyst. So-o-o-o, if you have any clothing that is amethyst (purple or bluish violet variety) be sure to wear it, and if you have any item(s) for display that contain amethyst, absolutely positively bring them for show and tell.

Even if you have a display not related to amethyst, but wish to show and tell, by all means bring it to the meeting. Everyone enjoys show and tell. It's a super way to get educated in the earth sciences. Rummage around your house/workshop. I'll bet you will find something to share.

Who do I pick on . . . ?

Last month it was Cordelia Tomasino, juniors activities chair, and this month it's Tom Noe, our *Rockfinder* editor. Actually, Tom is really the main artery for the club, our communications guy, along with his able assistants Herb Luckert and Bob Heinek. Many hours and much effort go into compiling and making sure we get the *Rockfinder* on a

monthly basis before our meetings. Tom spends a lot of time gathering interesting articles for us to read and other pertinent information. He always extends an invitation and appeal for us as members to turn in articles to be shared with members. Thank you to Tom and his team.

In closing, I would like to express a grateful thank-you to all our chairs, who are already busy with his year's club activities, and to the board for their diligence in committing to their duties for 2008. I will say this many times over--we are a great club and a wonderful bunch of friends coming together to enjoy our hobby.

See you at the February meeting,

Kathy

MINUTES OF THE JANUARY MEETING

President Kathy Miller called the meeting to order at 2:05 p.m. on January 27, 2008. In attendance were 38 members, 14 junior members and 4 guests. Marie Crull made a motion to accept the minutes of the last meeting as printed in the *Rockfinder*. It was seconded and carried. Lana Wright gave the treasurer's report and it will be filed for audit. Sue Brown has new fliers for shows and has given the information to Sally Peltz, our new liaison.

Bob Miller (American Federation of Mineralogical Societies representative) had a questionnaire from the AFMS and asked interested members to fill out the report and send it back to him. Sue Brown (Midwest Federation State Director) explained to new members how the American Federation, Midwest Federation and local clubs are associated. She also passed out information on web sites for both federations where you can access a wealth of free information.

Vice-President David Peltz informed members of a book called *The Gemstone Hand Book* for sale at Barnes and Noble.

Committee Reports:

Field Trips, Kathy Miller: There are only a few rooms and seats left on the bus for the September trip. If you want to go, sign up soon! Also, there will be a field trip to the quarry on US 12 near

Buchanan in May or June. Other possible one-day field trips were discussed.

Historian, Ed Miller: Would like to do a program on the history of the club and is currently working on a book of the club's history.

Hospitality, Pat McLaughlin: Passed out a sign-up sheet for refreshments for the year. Julie Weiger, Kathy Miller and Linda Miller provided the refreshments for today's meeting.

Juniors, Cordelia Tomasino: The juniors will be studying volcanoes and will need help with their experiments. They also need supplies to conduct the experiments. Contact Cordelia for more information.

Membership, Marty Perry: Please don't forget to sign the sign-in sheet at the meetings.

Program, David Peltz: Showed a knife he made out of a piece of meteorite and explained the process. Bill Nelson, Ed Enos and Bill Crull talked about the garnets they brought to the meeting.

Show, Marie Crull: The fairgrounds people have not given her a contract yet. Should have one by the end of the month, then the contracts can be sent out to the dealers.

Old Business:

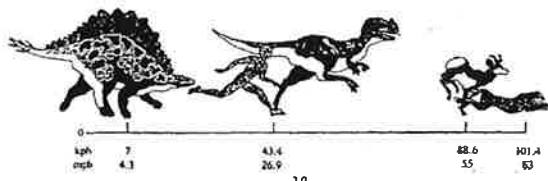
Kathy Miller passed out the club's *Bylaws* to anyone who needed a copy.

New Business:

The board has approved a new budget for the year, including a donation of \$300 to the church for the use of the facilities for our meetings. Kathy also gave a brief report on the American Lands Access Association (ALAA), which lobbies our legislators on matters relating to rock and fossil collecting. The club picnic will be July 20 at Potawatomie Park in South Bend. James Daly has some ideas for setting up a web site for our club and he would like some feedback.

Sally Peltz made a motion to adjourn the meeting. James Daly seconded the motion. The meeting was adjourned.

Marty Perry, Secretary



DINOSAURS: FACTS AND FICTION

WHAT DID DINOSAURS EAT?

Some dinosaurs ate lizards, turtles, eggs, or early mammals. Some hunted other dinosaurs or scavenged dead animals. Most, however, ate plants (but not grass, which hadn't evolved yet). Rocks that contain dinosaur bones also contain fossil pollen and spores that indicate hundreds to thousands of types of plants existed during the Mesozoic Era. Many of these plants had edible leaves, including evergreen conifers (pine trees, redwoods, and their relatives), ferns mosses, horsetail rushes, cycads, ginkgos, and in the latter part of the dinosaur age, flowering (fruiting) plants. Although the exact time of origin for flowering plants is still uncertain, the last of the dinosaurs certainly had fruit available to eat.

HOW FAST COULD DINOSAURS WALK OR RUN?

Estimates of dinosaur speeds vary because several different methods are used to calculate them. One recent estimate suggested that an average person might have been able to outrun an adult *Tyrannosaurus* (though you probably would not volunteer to try). The two basic approaches for estimating dinosaur speed are comparing to recorded speeds of modern animals of similar body size and build, and measuring distances between fossil footprints in a trackway and using these distances to calculate estimated speed. Walking-speed estimates for medium-sized bipedal (two-legged) dinosaurs vary from 4 kph to 6 kph, and peak running speed estimates vary from 37 kph to 88 kph. The highest figure (88.6 kph) is the same as the peak speed of the currently fastest land animals, such as the North American pronghorn "antelope" (*Antilocapra americana*), and very probably is too high.

FEBRUARY BIRTHSTONE

AMETHYST



From THE GEMSTONES HANDBOOK by Arthur Thomas

AMETHYST is a purple to violet variety of Quartz, encountered in “vugs” located in hydrothermal quartz veins. Alternately, amethyst crystals are often found lining the central cavities of the agate geodes often associated with basalt flows. The name is believed to be derived from the Greek word “amethystos”, which can be translated as “not drunken”. Many fine examples of amethyst are mounted in the rings of bishops. In the 19th century Russian production set the hallmark for superb amethyst, and even today fine violet material with distinct underlying port-wine tones may be described as Siberian amethyst. Brazil and Zambia are currently the major producers of gem-quality amethyst.

For the February Meeting, bring in your Amethysts and participate in a display and discussion of this fascinating gemstone.

Soldering Secrets Of The Ancient Egyptians

Ancient Egyptian goldsmiths soldered their work by a most clever, but secret process that remained a great mystery until modern chemistry recently discovered the secret. Egyptians would solder dainty wire filigree and granular gold to a surface without flux or flooding the work with solder. The goldsmiths mixed ground copper carbonate, or malachite with glue. The adhesive used to stick the grains of gold or wire into place or to coat and hold the adjacent edges of the parts to be joined.

The work was then heated on a charcoal brazier with the assistance of a blow pipe on those areas which had to be raised to the highest temperatures. At 200 C the copper carbonate changes into copper oxides. At 600 C the adhesive becomes completely carbonized. At 850 C a curious phenomenon occurs. The gold in contact with the copper melts to form a solder joint, well below the melting point of gold. The process had great advantages for the ancient goldsmiths. There is no precipitation of flux to throw small pieces of solder off the piece being worked and the various parts were already stuck together by the dried adhesive before heat was applied.

All that was required to be done, once the mixture was correctly prepared and applied, was to carefully heat the piece over a bed of glowing charcoal. The beauty of this process is that the work can be subsequently reheated without the risk of unfastening joints, that had previously been made.

THE LANGUAGE OF SCIENCE: THE WORDS ARE AS FASCINATING AS THE SUBJECT MATTER

The English language is an utter mish-mash of begged, borrowed and stolen words from a host of other languages. No language is inviolate when it comes to creating English language words. They have all contributed. The greater number come from the Greek and Latin languages, but there are inputs from Arabic, Anglo-Saxon, Germanic, French, and Spanish.

Rock: This general term for the material of the Earth's surface is rooted in the Old French word *roche*, which refers to any mass of solid material from the earth.

Granite: Romans used the term *granum* to describe things that were grainy and granite fits that since it is made of grains of several different minerals.

Basalt: Latin origin. This shows how words can change meanings through the ages, as the Romans used the word *basaltis* to describe a dark marble quarried in Ethiopia.

Schist: The Greeks used the term *schistos* to describe this type of rock. Their word meant divisible and any rock of schisty character tends to split easily. The Latin term *foliatus* gives us foliate to describe a leafy-like form which closely resembles much schist.

Marble: *Marmaros* was used by the Greeks to describe any sparkling stone, and any good marble has the sugary, sparkling texture.

Rhyolite: An igneous rock that flows slowly has the same root as the Rhine River's name. It is from the Greek *rhein*, to flow.

Pegmatite: *Pegma* in Greek means something fastened together and a pegmatite rock has many minerals fastened together in it. A related term is miarolytic, used in reference to gas cavities containing crystals just as pegmatite pockets do. The marolytic cavities in the Pikes Peak granite are in a red-stained granite, often with much more iron staining on the pocket crystals. The Greeks used the term *miaros*, meaning stained, coupled with *lithos* for stone.

Ore: An Anglo-Saxon term used to describe copper or brass. Since much of what was mined produced copper, zinc and other minerals, the term was

appropriate. It has since been broadened through general use to mean any productive rock.

Gold: Gold's name is clouded in origin. Some say its origin is unknown. Others offer a couple of options. The German word for yellow is *gelb* and for gold they use the same as the English word. The Anglo-Saxons used the term *geolo* for yellow.

Silver: Credited to the Anglo-Saxons, as their early word was *seolfor* and meant the white metal we still love.

Metal: The term we use for gold and lots of other useful elements and alloys. This general term is from the Greek word *metallon*, which can mean either mine or the group of substances we prize so much.

Mine: A word credited to the Celtic language and apparently of similar meaning. Mineral is a term used in Latin to mean ore, for their word *minera*. We add the Greek suffix *ology* to mean the study of minerals in the earth.

Assay: The technique used to figure out what a sample of an ore contains. It is a chemical test or trial before getting serious about mining the entire ore body. The word assay is from the same root as the English word *assize*. The root is Old French, *asai*, and means trial. The English call their trial court the Assizes, and we call our trial or testing of minerals assaying.

Placers: Where we find gold over an area, sometimes widespread areas. This is opposed to the finding of gold in veins. The term placer comes from the Greek word *platea*, meaning area. Vein is from the Latin *vena*, meaning channel or avenue.

Crystal: A general term to describe those minerals with a distinct naturally formed shape. The opposite of this are amorphous minerals, from *amorphos*, meaning without form from the Greek. The Greeks also gave us the word crystal from their word *kyros*. This term was used to describe snowflakes, the regular form of frost and the minerals of the earth. *Krystallos* was based on the root *kyros*.

Jewel: Something that man has formed from crystals. It is an Old French word *jouel*, meaning a little joy, something it certainly ought to bring to its owner.

Quartz: Probably the most commonly found crystal minerals. We use the German root word which described this chemical compound of silicon and oxygen. Oxygen gets its name from the Greek words

oxys for sharp and *genes* for born. This is because it was erroneously thought to be the source of acids, all of which have a sharp taste. Silicon, on the other hand, comes from silica, which is from the Latin *silex*. In fact, quartz was early on referred to as *silex* in the literature. *Silex* is the term used by the Romans to describe flint, a form of quartz.

Scepter crystals: Often seen in quartz. These are hexagonal prisms with a second fatter prism perched atop the termination of the first crystal. So, scepter comes from the Greek *skeptron*, which means staff, an allusion to the symbol of royalty.

Rock & Gem (1986)
slightly revised

PALAGEMS.COM LAPIS LAZULI BUYING GUIDE

By Richard W. Hughes

Introduction. Lapis lazuli is one of the oldest of all gems, with a history stretching back some 7000 years or more. This mineral is important not just as a gem, but also as a pigment, for ultramarine is produced from crushed lapis lazuli (this is why old paintings using ultramarine for their blue pigments never fade).

Color. For lapis lazuli, the finest color will be an even, intense blue, lightly dusted with small flecks of golden pyrite. There should be no white calcite veins visible to the naked eye and the pyrite should be small in size. This is because the inclusion of pyrite often produces discoloration at the edges which is not so attractive. Stones which contain too much calcite or pyrite are not as valuable.

Properties of lapis lazuli

Composition: Made primarily of lazurite (Na, Ca)₈(Al, Si)₁₂O₂₄(S, SO₄). Also contains hauyne, sodalite and nosean, which are all members of the sodalite group.

Hardness: Variable. Generally 5-6

Specific Gravity: Variable. Generally 2.7-2.9

Refractive index: ca. 1.50

Crystal system: None (lapis is a rock). Lazurite, the main constituent, is isometric, and frequently occurs as dodecahedra.

Clarity: Lapis lazuli is essentially opaque to the naked eye. However, fine stones should possess no cracks which might lower durability.

Cut: Lapis lazuli is cut similar to other ornamental stones. Cabochons are common, as are flat polished slabs and beads. Carvings and figurines are also common.

Prices: Lapis lazuli is not an expensive stone, but truly fine material is still rare. Lower grades may sell for less than \$1 per carat, while the superfine material may reach \$100-150/ct. or more at retail.

Stone Sizes: Lapis lazuli may occur in multi-kilogram sized pieces, but top-grade lapis of even 10-20 carats cut is rare.

Name: The name lapis means stone. Lazuli is derived from the Persian *lazhward*, meaning *blue*. This is also the root of our word, *azure*.

Sources: The original locality for lapis lazuli is the Sar-e-Sang deposit in Afghanistan's remote Badakhshan district. This mine is one of the oldest in the world, producing continuously for over 7,000 years. While other deposits of lapis are known, none are of importance when compared with Afghanistan. Lapis lazuli is also found in Chile, where the material is heavily mottled with calcite. Small amounts are also mined in Colorado, near Lake Baikal in Siberia, and in Burma's Mogok Stone Tract.

Enhancements: The most common enhancement for lapis lazuli is dying (staining), where a stone with white calcite inclusions is stained blue to improve the color. Other enhancements commonly seen are waxing and resin impregnations, again, to improve color. The color of stained lapis is unstable and will fade with time. As with all precious stones, it is a good practice to have any major purchases tested by a reputable gem lab, such as the GIA or AGTA, to determine if a gem is enhanced.

Imitations: Sintered synthetic blue spinel was once used as an imitation of lapis lazuli, but is rarely seen today. So-called synthetic lapis lazuli (such as the Gilson product) is more properly termed an imitation, since it does not match exactly the structure and properties of the natural. It is found in various forms, complete with pyrite specks (but all lacking calcite). Various forms of glass and plastic are also commonly seen as lapis imitations.

from the internet

Be a Gem, Adult Members,
and Help the Junior Rockhound Program!

Wow! Sixteen eager juniors braved the winter weather to attend the January meeting. As I announced at that meeting, I could sure use your help, especially since rockhounding is not my specialty. So this month, could you please fill out a questionnaire to help me learn what resources we have right here in our club?

Please return to Cordelia Tomasino, Juniors Activity Chair

Name(s) _____

Contact Information (phone/email address) _____

I (we) could help in the following ways:

___ Be "extra hands" at the juniors' meeting

___ Be a rock or fossil identifier

___ Show children a specific collection. What is your collection? Are you able to bring the collection to a meeting or would you allow the children to visit your home/business?

___ Demonstrate or teach a specific lapidary art. Please describe. Could it be done at a meeting or would we need to meet at another location?

___ Share your knowledge. This is pretty open-ended. Can you share about your career, a special collecting trip, general information about rocks and minerals, field trip safety, gemstone lore and legend, etc. Please describe.

___ Be a chaperone on a juniors' field trip

___ Other. Please describe.

For Junior Members: Future Rockhound Merit Badge Program

General Information: All junior club members may request a Future Rockhound of America membership badge from the juniors activity chair. Similar to Scouting programs, the program awards up to 15 merit badges to juniors for completing work in these areas: Rocks & Minerals, Earth Resources, Earth Processes, Earth in Space, Fossils, Lapidary Arts, Gold Panning & Prospecting, Gemstone Lore & Legend, Stone Age Tools & Art, Rocking on the Computer, Collecting, Showmanship, Communications, Field Trips, and Leadership. Typically, a junior needs to complete about 3 activities per badge. Completion of just 6 of these badges qualifies a junior to receive the rockhound badge.

Who is the juniors activity chair? Cordelia Tomasino, telephone: (269) 684-3454, email: tomasinos4@juno.com.

Where do I get copies of the merit badge requirements? A printed copy of the 2007 manual is in the club library and will be updated as soon as the 2008 materials arrive. The latest edition is also located online at the American Federation of Mineralogical Societies web site (<http://www.amfed.org/fra/meritbadge.htm>). The juniors activities chair also has a copy of the manual and can assist a child in obtaining copies of specific badge requirements.

How do I work on badge requirements? Juniors can complete requirements independently at home, through school assignments, at club meetings, or with their friends and family. Badge work does not need to wait until club meetings!

How do I get credit for badge work? Show your completed work, a picture of the project, or a note from an adult helper specifying the work completed to the juniors activities chair at the monthly meetings. She will keep a record of all badge work.

When will I receive my badge(s)? All badges need to be ordered through the national AFMS Juniors Program Chair. Typically, a badge should be available at the meeting following the completion of that badge's requirements, and it will be bestowed upon the recipient with fanfare and the recognition of the whole club.

Juniors February Meeting

Volcanoes. What does a volcano have to do with rockhounding? Come to the February meeting to learn! We'll be making erupting volcanoes while learning a little about the igneous rocks formed that are formed from the lava that escapes from a real volcano. Our experiment may be a bit messy, so come in your old clothes and bring goggles if you have them.

Show & Tell Time. *Do you have any igneous rocks* in your collection or a model volcano made for a school project? If you do, bring them to the meeting to show to other junior rockhounds.

...Like to draw or paint? Do a bit of research and bring a picture of your favorite type of volcano.

...Like to read? Bring in your favorite volcano-related books to recommend to others.

Want to learn more about volcanoes and see videos of eruptions? Visit the Volcano World web site at <http://volcano.und.edu/>.