# THE ROCKFINDER

Newsletter of the Michiana Gem and Mineral Society

Volume 48, Number 7 September, 2008

Next meeting: September 28
**Visitors are always welcome.**
Doors open at 1:30. Meeting starts at 2.

**Directory change:**
Joe and Marty Perry's new address is 29154 Frailey Dr., Elkhart, IN 46514 phone 574-295-9050.

**Place:** Our Redeemer Lutheran Church, 805 S. 29th Street (29th & Wall) in South Bend, River Park area.

**Program:** Bring to the meeting your favorite finds from over the past summer, your best items, preferably with a written description & location. We expect to see great items from the Corydon field trip.

**Refreshments:** Patty Enos and Sally Peltz

## UP & COMING SHOWS

**SEPTEMBER:**
**Sept. 19-21: Club field trip to Corydon, IN, quarry for collecting all sorts of things.**
20-21: CLARKSVILLE, IN. 14TH ANNUAL FALL FOSSIL FESTIVAL. Falls of the Ohio State Park, (Sat. 9:00-6:00, Sun. 10:00-5:00. www.fallsoftheohio.org/fossil_festival.shtml.
25-28: South-Central Federation Convention, Humble, TX.
27-28: OSHKOSH, WI. Oshkosh Earth Science Club. Sat. 9:00-5:00, Sun. 9:00-4:00.
4-5: SPRINGFIELD, IL. Lincoln Orbit Earth Science Society, Illinois State Faigrounds.
**OCTOBER:**
10-12: WARREN, MI. Michigan Mineralogical Society, Macomb Community College (South Campus), Fri. 9:00-7:00, Sat. 10:00-7:00, Sun. 11:00-5:00. www.michmin.org.
17-19: FT. WAYNE, IN. Three Rivers Gem & Mineral Society, Allen County Fairgrounds, Fri. 10:00-7:00, Sat. 10:00-7:00, Sun. 10:00-5:00. CONTACT: YamanakaM@cs.com.
18-19: CHICAGO HEIGHTS, IL. South Suburban Earth Science Club. Prairie State College, Sat. & Sun. 10:00-5:00. CONTACT: ssescus@yahoo.com.
18-19: CLIO, MI. Flint Rock & Gem Club. 300 Upland Drive. Sat. & Sun. 10:00-5:00.
24-26: MASON (LANSING), MI. Central Michigan Lapidary & Mineral Society. Ingham County Fair Grounds, Fri. 6:00-9:00, Sat. 10:00-7:00, Sun. 11:00-5:00.
25-26: CUYAHOGA FALLS, OH. ANNUAL FALL GEMBOREE. Emidio & Sons Expo Center, 48 E. Bath Road. Sat. 10:00-7:00, Sun. 10:00-6:00. www.LapidaryClubofOhio.org.
25-26: DAVENPORT, IA. Black Hawk Gem & Mineral Club. Mississippi Valley Fairgrounds, Sat. 10:00 to 6:00, Sun. 10:00-3:30. www.blackhawkgemandmineralclub.com.
25-26: EVANSVILLE, IN. Evansville Lapidary Society. Washington Sq. Mall. Sat. 10:00-9:00, Sun. Noon-5:00.
27-28: OSHKOSH, WI. Oshkosh Earth Science Club. Winnebago County Fairgrounds.

## KATHY'S COLUMN

It has been one week since our annual show and I am still recovering. Not from any thing physical, but from the awe I have of our members who made our annual show "the show of shows". WOW, I am so proud to be a member of the Michiana Gem & Mineral Society and have the privilege of knowing all of you.

Appropriately the following will be a combined thanks from Marie Crull and myself:

To the show committee chairpersons of various areas and their helpers

All the folks that brought in food (good stuff) for the kitchen

The worker bees who volunteered to work at stations

Those helping before and after the show

Friendliness of members who mingled among the public

Our exhibitors

Member demonstators

Hard working junior members

THANK YOU, THANK YOU, THANK YOU FOR YOUR HARD WORK, TIME AND EFFORT (and my special thanks to Marie, Bill & Joe for pulling it together).

After the show closed last Sunday, I had occasion to speak with Tom Noe (silent auction), Lana Wright (kid's corner) Tom McLaughlin (exhibitors), Marty Perry (Club Booth), Patty Enos (door) Bob Miller (demonstrators) and my group (kitchen). Not only were they pleased at the success of this show, but were making plans on how to improve or modify their areas next year! ☺

Did you notice during the show two different photographers? Ed Miller was busy taking pictures as our club historian, Ed is also working on a history scrapbook for our club. He is doing a great job on it, hope he enters it into MWF competition. The other photographer is Jim Daly. Jim is our Webmaster and was taking pics for our club's website. Be sure to check the web:
http://www.sauktown.com/Michiana

A gift was also given to our club during this year's show. Tom Enyart, club member, is a master in the art of stained glass. He presented our club with a gorgeous stained glass of our club's logo that will be displayed at our future meetings.

There are so many of you who have done so much to keep our club viable, a community of people enjoying earth sciences together.

Speaking of coming together, this month and October are the two biggest months when we expect interested guests to attend our meetings (to see what we are all about). Please make an effort to attend and visit with them.

I have spoken with Cordelia Tomasino and she has prepared a super program for our juniors and any junior guests that may come.

Bob & I will not be at the September meeting (red face ☹) we will be returning home from Houston that day from the national meeting of the American Federation of the Mineralogical and Geological Societies.

David Peltz will be leading the meeting and has a great idea for the program. He is incorporating the program with displays to help entice vistors to become future members.

Dear friends PLEASE BRING IN ANY ROCK, FOSSIL, MINERAL, that you have collected this summer either from one of our field trips or something you

may have collected on your own. to put out for display, or if you have made up something related to our hobby, please feel free to bring that for show & tell. This let's visitors see the lapidary part of our hobby.

Last but not least, in October, David as 1st Vice President has the job of nominating Chairmen. He will be inquiring if anyone would be willing to assume the position of President, Vice President, Secretary, Treasurer, Liasion. Elections will take place at a short meeting during our annual Christmas party since there is no November meeting. Just something to think about.

That's it, Bob and I will be thinking of you as we wing our way home on September 28. Good club, good friends, good show, good hobby – we can't beat that!

Kathy

## MINUTES OF THE JULY MEETING

President Kathy Miller called the meeting to order at 12:30 p.m. at Potawatomi Park on June 20, 2008, before the club picnic. There were 36 members, 3 guests and 6 junior members present.

Show chair Marie Crull reported we still need members to sign up to work the show. We also need door prizes for the door and the Kids' Korner. Call Patty Enos or Lana Wright for your prize donations.

Committee chairs are:

574-272-7209 Marie Crull—Show Chair, set-up and clean-up
574-674-6762 Joe Perry—Dealer Chair (574-295-9050 after July 31)
574-291-0332 Bob Miller—Demonstrations
574-259-1501 Tom McLaughlin—Displays
574-498-6513 Marsha Miller—Kitchen (food donations)
574-293-7965 Patty Enos—Door
574-243-4085 Lana Wright—Kids' Corner
574-289-2028 Tom Noe—Silent Auction
574-654-3673 Margaret Heinek—Members table

David Peltz made a motion to adjourn the meeting. Sally Peltz seconded the motion. Motion carried.

Marty Perry, Secretary

## DELEGATE REPORT—THE MIDWEST FEDERATION CONVENTION

By Tom Noe

As delegate of the Michiana Gem and Mineral Society, I attended the MWF convention in Lincoln, NE, in June. The Lincoln club obviously spent a lot of time in planning and hosting this very well-organized event, and I was impressed with how smoothly everything ran. Many club members were helping out in all sorts of ways.

First order of business were two field trips, scheduled for Tuesday and Wednesday, June 17 and 18. I had to drive through a stretch of floodwater-covered highway in SE Nebraska on the way to Lincoln, and the field trip brought us back down to the same area of the state, almost into Kansas. The Nemaha River had flooded several days earlier, but when our group of about 15 hunters arrived, the water level was not a problem. In fact, Pleistocene fossils were sometimes just sticking out of the sand bars and all you had to do was pick them up, like Easter egg hunting. The second day we came to the same area again and traveled to some different sandbars, a couple of Cretaceous road cuts and a gravel quarry where the oldest flower ever found was discovered by Lincoln club member Roger Pabian. There were many finds both days as we waded from sandbar to sandbar: a Laker about half-fist size, a bison jawbone with all the teeth, numerous bone and teeth fragments, small agates, small pieces of petrified wood. Some of the bones were probably mammoth but too worn to identify. I found a large bison vertebra and many other fragments.

A highlight of the show was the numerous displays. Most impressive was a collector from Ok-

lahoma who brought several tables of fossil vertebrate bones that he'd found in Nebraska. Some were huge. The show was in the basement of the convention center, a couple of blocks from the state capitol, making it easy to spend a couple of hours touring that towering building (built of Indiana limestone!). There were two exhibits entered in MWF and AFMS competition, and the judges spent a lot of time on each one, then posted their comments by the exhibits.

At the MWF meetings, the various committee heads presented their reports, and delegates were reminded that the 2009 convention will be hosted by the Parma Lapidary Club in Ohio. We then voted on a couple of changes to the rules, specifically whether two special committees (Rockhound of the Year and Program Library Development) would become permanent committees, and both were approved as permanent committees. Other items: the archives of the MWF will be scanned and digitized, suggestions were made about dropping some of the categories in competitive exhibits, and the CD "Rocky Songs" will be given for donations of $20 or more to the Endowment Fund.

Thanks for selecting me as your delegate to the MWF convention!

## THUNDER BAY IS NATION'S ONLY FRESHWATER PRESERVE

By Pat Murphy

The Thunder Bay National Marine Sanctuary and Underwater Preserve was dedicated in Alpena in September 2005, becoming the nation's 13th underwater park and its only freshwater preserve. The 448-square mile park is part of an area known for a century as Shipwreck Alley because of the unpredictable weather, murky fog bands, sudden gales and rocky shoals. An estimated 160 shipwrecks are recorded in the area, many of which have not been found. Another area, the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, has been proposed as the 14th National Marine Sanctuary.

## NEW GEOLOGICAL PERIOD ADDED

Extracted from an article on Wikipedia.com

On May 13, 2004, the International Union of Geological Sciences (IUGS) announced the first new geological period declared in 120 years—the Ediacaran Period. The IUGS is an international non-governmental organization devoted to international cooperation in the field of geology. One of its daughter groups, the International Commission on Stratigraphy, is the generally accepted authority on the names and starting/ending dates of the various subdivision of the geological time scale. The Ediacaran Period takes its name from the Ediacara Hills, located in the Flinders Ranges of South Australia, the location of the type site or Global Boundary Stratification and Selection Point (GSSP). The Ediacaran is the last geological period of the Neoproterozoic Era, just preceding the Cambrian Period of the Paleozoic Era. Its assigned time range is 635 to 542 million years ago.

Since animals with hard shells (exoskeletons) did not appear until the Cambrian Period, the fossil record for the new period is sparse. However, the Ediacaran biota include the oldest multicellular organisms with tissues, the most common types resembling segmented worms, fronds, disks, or immobile bags. They bear little resemblance to modern life forms, and their relationship even with the later life forms of the Cambrian explosion is difficult to interpret. More than 100 genera have been described, and well known forms include *Arkarua*, *Charnia*, *Dickinsonia*, *Ediacaria*, *Marywadea*, *Onega*, *Pteridinium* and *Yorgia*.

Excerpted from *MWF News* (September, 2008)

## "WHAT IS A ROCKHOUND AND ROCK-HOUNDING?"

Rockhounding is the recreational collecting of rocks and/or mineral specimens from their natural environment.

Early rockhounds were prospectors looking for valuable minerals and gemstones for commercial purposes. Eventually, however, more and more people have been drawn to rockhounding for recreational purposes, mainly for the beauty that rocks and minerals provide.

The rockhound's principal piece of equipment is the rock hammer. This small tool has a pick-like point on one end, and a flat hammer on the other. It should be noted, however, that the hammer end is for breaking rocks, and the pick end is mainly used for prying and digging into crevasses. The pick end of most rock hammers can dull quickly if struck onto bare rock.

Getting started in rockhounding is easy; a collection can begin with a single "pretty" rock. However, there are many clubs and groups that rockhound together. Libraries, bookstores, and gem and mineral shows are very good sources of published information on where to find such groups. Also, tourist info centers and small-town chambers of commerce can also supply valuable local information. The Internet can also be a useful tool and can help find buddies in the hobby.

The avid collector will learn quite a bit of mineralogy and geology in search of collecting location information as well as in the identification and classifying of specimens, and preparation for display. The hobby can lead naturally into lapidary or mineral and gemstone cutting and mounting. The needed equipment then includes rock saws and polishers. Many beautiful crystal varieties are typically found in very small samples which requires a good microscope for working with and photographing the specimen. The hobby can be as simple as finding pretty rocks for a windowsill or develop into a detailed and comprehensive museum quality display.

Many states regulate the collection of some rocks and minerals, even on public lands, so it is advisable to read up on local laws before prospecting. Rock and mineral collecting is prohibited in most if not all national parks.

## SAFETY TIPS

Many rockhounding sites require driving and/or hiking to remote areas, largely on dirt, sand or rocky roads where there is a good possibility of getting stuck. It is always a good idea to travel in a group and to bring plenty of drinking water with you when traveling, especially in hot, dry climates. If you must travel alone, be sure to let someone know of your plans.

Protective safety goggles.

It is advised to use safety goggles whenever rocks are struck, whether breaking open small stones or chipping a piece off a large boulder. Flakes of stone can seriously injure the eyes. Also, be aware that the dust that comes from chipping and cutting rock can be extremely hazardous to the lungs. If necessary, use a mask or respirator.

From Rockhoundstation1 website

## THE TARKIO VALLEY SLOTHS: ICE AGE ANIMALS IN OUR BACK YARD

For more than three years, students, staff & volunteers from the University of Iowa Museum of Natural History, Department of Geoscience and Office of the State Archaeologist have been excavating, analyzing and carefully reconstructing bones of an ice-age giant sloth from a site near Shenandoah, Iowa. Like detectives at a 12,000-year-old crime scene, the team has been attempting to piece together a life history of this extinct, furry, SUV-sized mammal. What did it eat? Why did it die? And why did giant sloths mysteriously become extinct, along with over three dozen other large ice age animals, approximately 10,000 years ago?

Bob and Sonia Athen first discovered the sloth in the summer of 2001 behind their home, along West Tarkio Creek, which forms the border between their land and that owned by Dean and Loreta Tiemann of Lincoln, Nebraska. The Athens subsequently brought their specimens to Iowa City, where Holmes Semken, emeritus professor of Geoscience and leader of the sloth research project, identified them as the remains of *Megalonyx jefersoni*, the giant sloth discovered by and named in honor of Thomas Jefferson. Dr. Semken visited the site the following spring and excavation began in September of 2003. Both families have been enthusiastic donors and participants in the excavations.

Bone distribution at the Tarkio Valley site suggests this sloth died in or near the water, then partially decayed and broke up into body segments that floated and dispersed before burial. The presence of smaller bones and absence of abrasion indicate the bones have not been moved by the river. Approximately 90 bones have been recovered so far, more than at all but one other *Megalonyx* site.

*Megalonyx jeffersoni* was the size of a small elephant and weighed 2-3 tons. *Megalonyx* is known from fewer than 200 published sites in the US, as compared to thousands of mammoth and mastodon discoveries. The majority of sloth sites consist of only a single bone. Sloths are in the order Xenarthra, which includes armadillos, anteaters and sloths. These sloths originated in South America and migrated to North America about five million years ago. They are characterized by a lack of tooth enamel, varying number of cervical vertebrae, bony sternabrae and sternal ribs, extra articulations on the lumbar vertebrae, small brains and low body temperature.

In the spring of 2006, the mystery became much more complicated. In a series of expeditions from April to June, the research team recovered more than 30 smaller bones, which have been confirmed as belonging to a juvenile version of the same species, probably 1-2 years old. The bones were found about 10 feet away from where the first adult bones were discovered. This discovery marks the first time an immature sloth of this species has been found directly associated with an adult, and is the second-most complete juvenile *Megalonyx* ever found. In the fall of 2006, the research team announced that a bone belonging to a second juvenile sloth had been uncovered. The scapula, or shoulder blade, recovered on the early November dig has been confirmed as belonging to a very young individual of the same species previously recovered, probably less than one year old.

Semken is currently preparing a grant proposal for the National Science Foundation (NSF) to fund analyses of the fossils. The discovery opens the door to giant sloth research that has never been possible before. The museum will have to extract and sequence the DNA to prove that the two finds constitute a true sloth family, but the close association of the fossils is compelling evidence that they are related. The proposed research has the potential to indicate the climate, local habitat, diet, dietary deficiencies, some diseases and possibly the migration patterns for the animals. Together, the three individual sloths may help establish parameters for determining the sex of adults, age of sexual maturity, growth rates and diet changes with age, forming a Rosetta Stone of sorts for understanding this extinct species.

Excavation of the site continues with the help of volunteers from all across the Midwest. The goal of this project is to make this sloth the best researched specimen ever, by using the labs and expertise available at the University of Iowa. The skeleton will eventually go on display in the UI Museum of Natural History.

*Source: U. of Iowa Museum of Natural History & Dept. of Geoscience*

## WHAT MAKES THE HOT SPRINGS SO HOT?

The words "hot springs" often conjure up images of volcanoes, geysers, and underground chambers of molten rock or magma, and usually these features are found associated with hot springs.

But in Hot Springs, Arkansas, known for its hot springs, the earth is relatively quiet. There is no evidence of magma lying close below the earth's surface to heat underground water. Instead, geologists believe that just the right combination of rock types and old faults exists here to permit water to percolate deep enough where it can be heated by surrounding rock.

Carbon-14 dating methods and the measurement of tritium (an isotope of hydrogen) show that the hot springs water began as rainwater which fell over 4,000 years ago. Two rock types in the area, Bigfork Chert and Arkansas Novaculite, act like giant sponges - they are porous or highly fractured. Lying in tilted layers, these rocks absorb the rain and conduct it slowly downward to a great depth. The water travels downward for nearly 4,000 years to depths between 2,000 and 8,000 feet.

A natural thermal gradient heats the water: the deeper into the earth the water travels, the hotter it gets. Heat is supplied from the radioactive breakdown of particles found throughout the earth's crust.

At great depth, the heated water comes into contact with cracks and faults within the Hot Springs Sandstone. These cracks bring the water quickly - in about a year - back up to the surface to emerge as hot springs on the slope of Hot Springs Mountain. The water retains most of its heat during this relatively fast upward journey and arrives at the surface at an average temperature of 143 degrees Fahrenheit.

http://www.hotsprings.national-parkcom/info.html

## WHAT IS PRASIOLITE?

Perhaps you've seen this clear, lime or mint green gemstone at mineral shows. Variously sold under trade names such as green amethyst, lime citrine, vermarine, or mint quartz, prasiolite is simply green quartz. Pleasant green color and reasonable prices make it a popular gemstone.

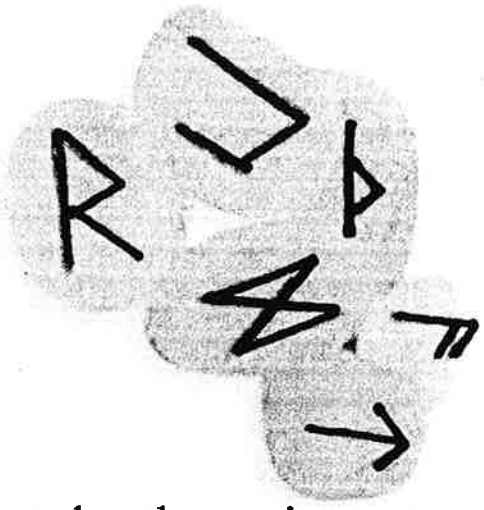
Prasiolite's green color is due to minor traces of iron (Fe) trapped in the quartz (hexagonal $SiO_2$). An alert collector might ask, "Isn't the yellow color of citrine caused by iron? How can it also give a green color?"

The answer appears to depend upon the valence (or ionic charge) of the iron impurities. If you take iron in its ground state ($Fe^0$) and take away two electrons, you get the ferrous iron ($Fe^{2+}$) ion. Take away another electron and you have ferric iron ($Fe^{3+}$). When synthetic citrine is prepared, scientists introduce traces of ferric iron ($Fe^{3+}$). Prasiolite, on the other hand, appears to require ferrous iron ($Fe^{2+}$).

Interestingly, amethyst also requires iron. It is well known that citrine responds to irradiation by turning to amethyst. You can take naturally purple amethyst, heat it to somewhere above 400°C, and it transforms into yellow citrine. If you then subject it to radiation (either naturally over many years, or artificially for a few minutes in a gamma-ray irradiation facility), the yellow color of the citrine converts to the purple of amethyst.

Synthetic prasiolite is manufactured using ferrous iron ($Fe^{2+}$), but it is also possible to produce prasiolite from white quartz or light amethyst found in Uruguay and Brazil. Specimens are first irradiated at gamma-ray irradiation facilities, then heated, to "green" the quartz. Although rare, naturally green prasiolites are known to occur as well; they are found in association with hot springs.

www.rusgems.com/tech cr quartz.php



**September Junior Rockhounds' Meeting**
(during the regular club meeting)

## Slate Etching

Budding young artists may try their hand at the ancient art of slate etching, an art form well known to the Celts and Vikings. Each Junior Rockhound will be able to create a lapidary project by etching lines and patterns into small tiles of slate (pieces of an old blackboard) with various nails, rasps and carving tools. Youth may be inspired by and copy various designs from art books available at the meeting or may create their own original design to transfer to the slate. As usual, dress for a mess: we will be working with chalk, carbon paper and polishing materials!

*--Cordelia Tomasino*