

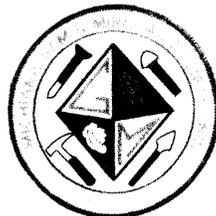
THE ROCKFINDER

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



THE ROCKFINDER

DECEMBER, 2010



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 usually held the fourth Sunday of each month, 2:00 p.m., 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 monthly 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
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Please indicate areas of special interest:
 General Geology _____ Beads _____
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Michiana Gem and Mineral Society (www.sauktown.com/Michiana), a not-for-profit organization, is affiliated with the Midwest Federation of Mineralogical Societies (www.amfed.org/midwest.htm) and with the American Federation of Mineralogical Societies (www.amfed.org).

The Rockfinder is published monthly except July and August. Editor, Tom Noe, Co-editor, Herb Luckert (574-282-1354). Reporters: club members.

Permission is hereby granted to reprint any original *Rockfinder* articles, as long as recognition is given along with the reprint.

PLEASE READ AND SIGN THIS SECTION:

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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 Birthday _____

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 Birthday _____

Please send your dues and this form to
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 c/o, Marty Perry, 29154 Frailey Dr., Elkhart,
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THE ROCKFINDER

Newsletter of the Michiana Gem and Mineral Society

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December, 2010

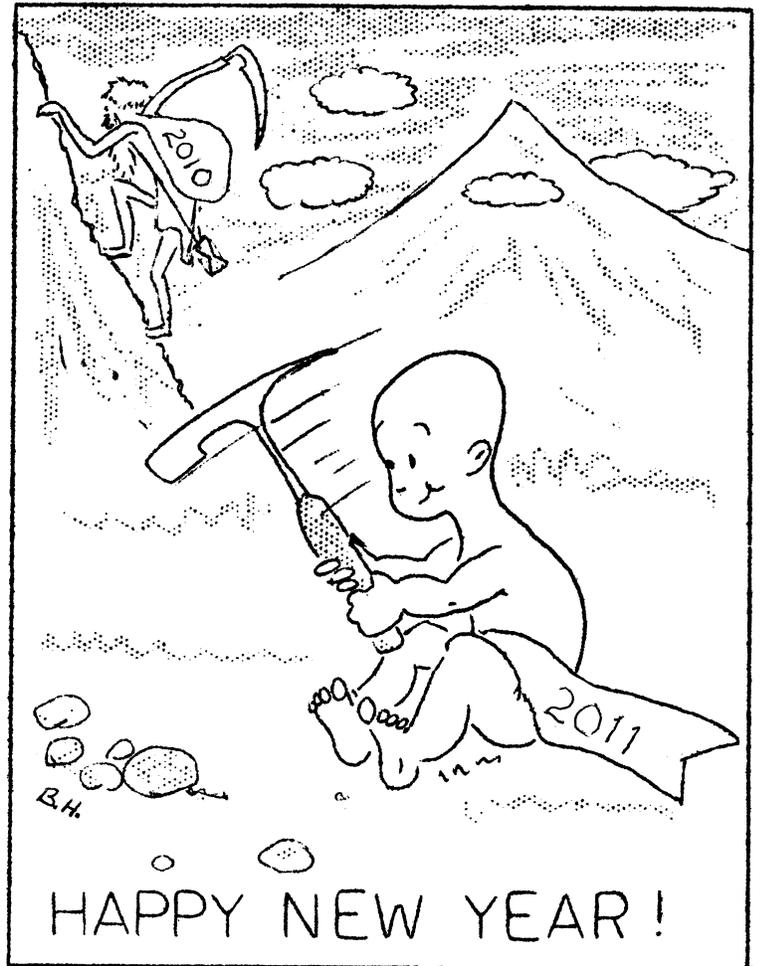
Next meeting: January!

Details coming in the January *Rockfinder*.
Visitors are always welcome.
Doors open at 1:30. Meeting starts at 2.

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

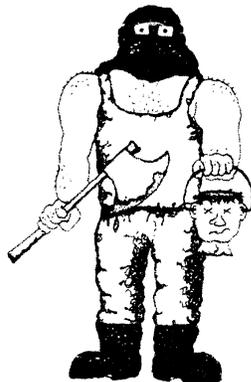
WEATHER UPDATE

During the winter months, if there is any inclement weather on meeting day, members can call any board member on Sunday morning to check for cancellation of the meeting.



Dues are due!

(Use the form on the back of the cover. Send check to Marty Perry)



**PAY YOUR DUES
OR ELSE!**

Michiana Rock Enthusiasts, Take Note!

If you haven't heard about the great mineral displays and fossil treasures at Joshua Tree museum in Lakeville, be sure to get over there and feast your eyes. (You can touch some of them, too!) They specialize in meteorites, but the museum is an eye-full in many areas. A must-see!

Joshua Tree Earth and Space Museum
106 S. Michigan St.
Lakeville, Indiana 46536

The 2010 board
 wishes all the members of the
 Michiana Gem and Mineral Society
 a Merry Christmas,
 a Happy Holiday Season
 and a healthy and prosperous
 New Year of 2011.



merry Christmasaurus

MINUTES OF THE DECEMBER MEETING

President Kathy Miller called for a quick meeting during the MGMS annual Christmas party. In attendance were 42 adult members, 14 children and 2 guests.

Kathy introduced the 2011 MGMS officers and committee heads, listed below.

President: Kathy Miller
 Vice-President: Randy Hill
 Secretary: Michelle Winters
 Treasurer: Marty Perry
 Liaison: Linda Garwood

Editor: Jason Hefner
 Education: Jesse Zeiger

Field Trips: John Davis
 Historian: Ed Miller
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 Juniors: Trista Lewis
 Librarian: Pat Bell
 Membership: Joan Hill
 Programs: Randy Hill
 Publicity: Joe Perry
 Show Chair: Marie Crull
 Sunshine: Sally Peltz
 Webmaster: Jim Daly

After introductions, Kathy wished everyone a Merry Christmas, and the very short business meeting ended, followed by resumption of the gala party!

CHANGE OF EDITOR

--A note from Tom Noe

With the January issue of *The Rockfinder*, Jason Hefner will be taking over as new editor. We can look forward to some big advances in layout, since he plans to do it digitally rather than scissors-and-glue, like I've always done it. You'll also notice a big improvement in the quality of the photos—and probably more photos, too.

The Rockfinder is one way we can all keep in touch, even if members aren't able to come to the meetings. It's really *your* newsletter, so your articles and photos and poems and field trip reports and suggestions are always welcome. Be sure to send them in to Jason. Wouldn't it be great to print an issue with every article written by our own club members? Of course, it's also enjoyable to read interesting articles that come from the newsletters of other clubs.

Meanwhile, I'll be keeping my editorial pencil going strong by volunteering for the American Lands Access Association (ALAA), which is the lobbying group associated with the American Federation of Mineralogical Societies. The Michiana Gem and Mineral Society has supported ALAA for a long time with donations, and now I can offer editorial support as well.

So, both Jason and I are looking forward to some new responsibilities! Thanks to all those who have helped me out with *The Rockfinder*, and special thanks to Herb Luckert, who has printed the labels and the page layouts faithfully each and every month, as well as scouring through stacks of club newsletters for interesting articles to reprint, and helping out in many other ways. I always knew that if I didn't catch a spelling or factual mistake, Herb would. And thanks also to any club member who wrote an article for *The Rockfinder*.

Send stuff in to Jason!!!!



Merry Christmas
and
Happy New Year!

POLISHING CHALCEDONY ROSES

By Ted Robles

My wife and I had collected a lot of small chalcedony roses at the foot of the Cady Mountains. They were wind-polished, but that was all; I thought I would try an experiment. I put them into the 1/2 gallon Lortone tumbler, with tin oxide and very little water. I let them go for two weeks picking the thing up occasionally and shaking it to see if the stones were still moving, thinking to add water if they stopped, but they never did.

After two weeks of polishing without grinding, I took them out - my test piece looked good, so I washed them all. After drying, they were the most incredibly beautiful chalcedony roses I have ever seen! I think the old-fashioned ways are sometimes the best, and the polish without grinding is the neatest trick I ever came up with! Try this and you might like the results.

To get a good polish on gypsum spheres, use an old pair of nylon pantyhose doubled up and stretched over the sphere cutter heads. Hold it in place with rubber bands. Polish with cerium oxide. Use the nylons to hand polish sculptures after sanding with 1000 grit sandpaper. It also works for talc (soapstone) sculptures.

The Rockpile (June, 2007)

AMERICAN FEDERATION OF MINERALOGICAL SOCIETIES**CODE OF ETHICS**

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



The Twelve Gems of Christmas

GARNET	EMERALD	SAPPHIRE
OPAL	PEARL	AMETHYST
RUBY	TOPAZ	TURQUOISE
DIAMOND	PERIDOT	AQUAMARINE

K	E	G	E	T	H	P	E	R	I	D	O	T	T
C	G	N	L	E	Z	M	F	Y	H	K	D	O	U
A	G	G	I	N	E	I	V	A	Q	N	P	J	R
M	A	T	S	R	A	M	M	L	O	A	E	K	Q
A	I	V	A	A	A	E	U	M	L	Q	A	Q	U
C	K	L	B	G	T	M	A	C	G	B	R	Z	O
R	D	E	W	H	Y	I	A	E	I	D	L	A	I
Q	Y	P	Y	A	D	B	H	U	I	V	A	P	S
R	S	S	F	Q	I	W	U	D	Q	F	J	O	E
X	T	S	A	P	P	H	I	R	E	A	V	T	S



Word Search from The Glacial Drifter-
Bulletin of the Topeka Gem & Mineral Society, Inc., Nov, 2006

RATZILLA: EXTINCT RODENT WAS BIG, REALLY BIG

by Sid Perkins, www.sciencenews.org

Think the rodents you've seen in movies are scary? Scientists who've analyzed the fossilized remains of an extinct South American relative of guinea pigs say that these ancient bruisers were as large as bison.

Researchers first described *Phoberomys pattersoni* in 1980 but until recently had only bone fragments and isolated teeth to study. Despite that limitation, scientists suspected that the animals were

huge, says Marcelo R. Sanchez-Villagra, a paleontologist at the University of Tubingen in Germany.

Now, analyses of newly recovered fossils, including a nearly complete skeleton, have enabled Sanchez-Villagra and his colleagues to refine estimates of *Phoberomys's* size. They put it at about 740 kilograms (1,630 pounds), easily earning the species the title of heavyweight rodent of all time. A disproportion between the front and rear limbs suggests that the creature could rest on its haunches and manipulate food with its front paws like its modern relatives do, says Sanchez-Villagra.

JADE: THE STONE OF HEAVEN

For thousands of years, jade has been known to man and held a special attraction for mankind. This unique symbolic energy gemstone comes in many fine nuances of green and in shades of grey, white, orange and yellow. In ancient China, the Chinese called this green gem "yu," as "yu" means the "royal gem." It was used for the finest objects, cult figures and also in grave furnishings for respected members of the imperial family. In ancient Egypt, this gem was admired as the stone of inner peace, love, balance and harmony. Jade was regarded as a protective or lucky stone in other regions and cultures also.

In Asia, this fascinating gemstone is collected as an antique, while in the West jade is preferred to be collected in the form of cigarette holders, snuff boxes, small bowls or rings. While diamond holds a title as the hardest gemstone, jade holds a title of the toughest gemstone in nature. It is the toughest because it is the most resistant to breaking. Early hammers and tools have been found which were formed from this mineral.

When you are talking about jade, you are talking about two different minerals, jadeite and nephrite. Both nephrite and jadeite are regarded as "zhen yu" (genuine jade) in China. The gemologists and mineralogists started to differentiate between these two gemstones in the beginning of the 19th century. Although both of these stones are tough, they differ from one another in their colors and chemical composition. Nephrite ranges from mid to dark green or grey-green, and it can also be yellowish, reddish or white. Jadeite displays hues which include green, but also pink or white, reds, browns blacks and violets. Many of the finest jades have their color distributed evenly. Both jadeite and nephrite often have veins, streaks and blemishes running through them but these are not always considered as flaws. Jadeite is a little denser and harder and therefore can take a higher polish than nephrite. Because jadeites are rarer than nephrites, people regard jadeite as a more precious gemstone. Nephrite deposits have been found in Russia, China, Guatemala, New Zealand and the Swiss Alps. Jadeite is found in Russia, Guatemala and China but the finest quality

usually comes from Burma (Myanmar).

In general, the intensity of the color, the texture and vivacity, and its transparency and clarity will determine the value of the jade stone. In Europe and USA emerald green, apple green and spinach green are regarded as particularly valuable. In the Far East, pure white and a fine yellow with a delicate color of pink undertone is highly esteemed. Jade with fine violet nuances of lavender is also very popular. However, the beautiful and rarer emerald green of imperial jade is the one which fetches the highest prices.

preciousgemstones.com/gfsummer10.html

IOWA COLDWATER AGATE

By Rick L. Olson

Ellis Voss of Westside Agates in Ames, IA, has seen an Iowa Coldwater agate sell for \$1,000! Did that get your attention?

You do not have to drive to Arizona for serious rockhounding. Iowa is about as good as it gets in some categories: geodes, fossil Paleozoic marine fauna and Coldwater agates.

We find two kinds of agate in Iowa. Lake Superior agates were formed in vesicles in basalt around the Lake Superior region and transported into Iowa by glaciers. The agates we find in gravel are Lake Superior agates. Coldwater agates form in limestone and are native to Iowa and some other Midwestern states. They are found in limestone quarries, and occasionally in roadcuts or streambeds where they have eroded out of nearby limestone exposures.

Of course, not all limestone contains Coldwater agate. Iowa's best Coldwater agates are found in quarries in Keokuk County. The best of these quarries is the Kaser Corporation Quarry near Keswick. The Kaser Corporation is now a wholly-owned subsidiary of Martin-Marietta, and the quarry is closed to collectors. (However, some people on the inside track will give you a sly wink and say, "Not necessarily.") The first time Jo, Luke and I went to the Keswick Quarry, we thought we were in heaven. The roads were paved with agates: not keepers, but tantalizing enough to make our hearts pound as we

headed for the nearest spoil banks. Here I quickly found my first ever geode, then another, and another. We also found a number of specimens of Coldwater agate with which we were thrilled, but which (we now know) pale in comparison to the agate found there by people who knew what they were doing.

We carried our buckets full of what we considered trophy specimens up the long steep road to our car, exhausted but exhilarated. We had never even dreamed of rockhounding like this. We paused to rest half-way up the road, watched the full moon rise over the quarry walls and thought, Life doesn't get any better than this!

We went back several times that summer, always searching the spoil banks, and always finding nice material by the bucketful. Then permission to search became hard to get, and I was ready to get back to fishing anyway. The guys who found the monster agates, we later found out, did not search the spoil banks. They knew which strata contained the best agate, and searched where new openings had been made in these strata. I have seen some of these guys' agates, and the best of them, in my opinion, far outshine Brazilian agates and thundereggs.

Beautiful Coldwater agate can also be found in the quarries, roadcuts and bluffs near the Cedar River in Benton County, and the Maquoketa River in Delaware County. These are less colorful than the Keswick agate, but still provide the Iowa rockhound an opportunity to find large, well-banded agate nodules that are great for lapidary work.

The Coldwater agate of Story County is not well known and rather hard to find. Most of it is of lousy quality, but a small percentage is very attractive and good sized, with nice wide, starkly contrasting banding in black, white and orange. The only way I know of to find it is to search the creekbeds and hope your serendipity kicks in that day. If you know of a better way to find it, please let me know!

The question of etymology always arises in any discussion of Coldwater agate. The term was first used to describe a banded chalcedony found in limestone matrix in Wisconsin, and seems to have been coined by amateur rockhounds. Scientists generally prefer the term "banded chalcedony" since this material is more opaque than agates formed in igneous rock. This is only speculation, but I think the adjective "Coldwater" is applied to this material

because the limestone matrix evokes coldness, while the igneous matrix of other agates evokes heat. This is a not-quite logical folk etymology, since both matrices were equally cold by the time the agate was formed.

Cedar Valley Gems (Mar., 2002)

HOLLYWOOD'S T. REX MUCH FASTER THAN REAL DINOSAUR

By Dale Gnidovec

During tours I give to school and Scout groups at the Orton Geological Museum, we stop at our full-size replica of the skull of *Tyrannosaurus rex*. One of the things I point out is the size of its eye sockets, indicating that the animal had eyeballs the size of baseballs and thus very good eyesight. Frequently, a kid will counter that if you didn't move, the animal couldn't see you.

I gently say that that idea was pure Hollywood – few animals rely so heavily on motion for sight detection, and none in the dinosaur's lineage – and that even if it couldn't see you, it could certainly smell you, thanks to the enormous part of its brain devoted to that sense. Most will remember another thrilling scene in the first Jurassic Park film when the Tyrannosaurus is chasing a jeep. Shifting through gears, the jeep revs up to 30 or 40 mph with the large reptile in hot pursuit. Recent research indicates that that scene is one more that must be chalked up to "artistic license."

The research, published in the *Journal of Theoretical Biology*, was devoted to obtaining a better estimate of the animal's agility, which required a better handle on the animal's weight. Previous estimates ranged from 3.7 to 11.2 tons.

A mounted skeleton of an average adult *Tyrannosaurus* was digitized using 67 skeletal landmarks, and then the body outline was added. And because not just overall weight, but also the weight's distribution, is important, especially during fast turns, the program allowed the embedding of areas of different density, both lower (such as lungs) and higher (such as bones).

The method was tested by applying it to an ostrich skeleton to see how closely it could reconstruct the animal's original contours and weight.

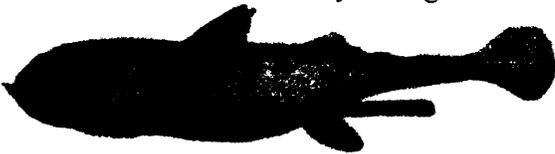
The best estimate for *Tyrannosaurus* is 7.2 tons. The research indicated that *Tyrannosaurus* would have changed direction slowly, taking one or two seconds to make a quarter turn. The authors suggest that watching large dinosaurs move would have been like watching a movie of modern animals in slow motion.

The Columbus Dispatch (Nov., 2008)

RESEARCHERS REEL IN THE WORLD'S OLDEST BRAIN — IT BELONGED TO A FISH

By Scoff Canon

The iniopterygian swam in the sea over Kansas about 300 million years ago.



The University of Kansas, it turns out, is home to the world's oldest known brain. And we aren't talking faculty.

Rather, it's a fish.

A high-powered X-ray machine in France has peered into a rock unearthed near Lawrence and Baldwin to reveal a 300-million-year-old fish brain.

At a quarter-inch long, it is an insult to pea brains (Missouri alumni may insert own joke here). But it is a brain, nonetheless, and the most ancient brain tissue scientists have yet to discover.

Much of the fossilized brain looks to be devoted to vision, which jibes well with scientists' suspicions that the iniopterygian relied heavily on its oversized eyes to compensate for a poor sense of smell or hearing — and possibly unsteady balance — for survival.

“These were truly, truly weird fishes,” said Larry Martin, the senior curator at the Kansas Museum of Natural History. “They were like something out of a fantasy novel.”

Hooks on their pectoral fins, which sat almost on their backs. Armor plates on their noses. A gruesome row of jagged teeth. Oversized heads on bodies that stretch six inches to a foot long. Shark traits. An ancestor to the modern rat fish. Odd, straight tail with oversized fin like a 1960s Cadillac.

It swam in the shallow waters of a salt-water

ocean that covered the Midwest so many millennia ago.

When they were swallowed by bigger fish, the head often was upchucked. From that inglorious demise, the fish noggin ended up preserved in phosphatic nodules that scientists compare to nuts.

This particular sample probably was picked up near Vinland, Kan., between Lawrence and Baldwin City, in the 1930s or 1940s. For years, paleontologists would study such samples by cracking them open and painstakingly reconstructing what the fish's head looked like layer by layer.

More recently, a team led by Alan Pradel of Museum National d'Histoire Naturelle in Paris borrowed one of the unopened samples for study. They ran it through one X-ray machine and thought they detected a tiny blob where the brain should be.

So they imposed on physicists to run the fossil through the European Synchrotron Radiation Facility in Grenoble, France, one of the most powerful X-rays on the planet. The ground-breaking technique created a three-dimensional model of the fish head. Voila, a brain.

“Brain tissue is very squidgy, soft, amorphous stuff,” said John Maisey, a paleontologist and curator at the American Museum of Natural History. He's an author of a just-published article on the fish brain in the *Proceedings of the National Academy of Sciences*. “For it to be preserved like this is really remarkable.”

Prior to the iniopterygian brain, about the only fossilized soft tissue that scientists had found was muscle and the occasional kidney, Maisey said. But brains were almost unheard of, and never anything nearly this old.

Museums already may hold many fossil samples with brains, Maisey said, but the use of the synchrotron scanner now makes it possible to find them. So the scanner could open the way to find and study the brains of dinosaurs or other long-gone animals.

“The more high-tech you go,” he said, “the more things you discover.”

In fact, that's why hundreds of samples of iniopterygian heads and those of its contemporaries are still in storage at the KU museum — many of them uncracked.

“We surely have more brains here,” said Martin, the KU curator and professor of ecology and evolutionary biology. “This is exactly why museums hold on to these things.”