

# THE ROCKFINDER

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*Larry Hess, Editor  
Michiana Gem & Mineral Society  
15358 Kerlin Drive  
Granger, IN 46530*

# MICHIANA GEM and MINERAL SOCIETY

## 1993 BOARD OF DIRECTORS

President	---- Margaret Heinek	7091 E East Park Ln, New Carlisle IN 46552
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Programs	---	Larry Hess	15358 Kerlin Dr, Granger IN 46530
Hospitality	---	Irene Ungurait	1267 Kinyon Dr, South Bend IN 46616
Educational	---	Gordon Dobecki	11900 Laughlin St, Mishawaka IN 46544
Librarian	---	Paul Godollei	1910 Ribourde Dr, South Bend IN 46628
Historian	---	Ed Miller	3431 East 18th B Rd, Tippecanoe IN 46570
Sunshine	---	Molly Elwell	105 N Ironwood Dr, South Bend IN 46615
Display	---	Mary Miller	451 S Illinois St, South Bend IN 46619
Publicity	---	Dawn Cytacki	1606 E Madison St, South Bend IN 46617
Membership	---	All Members	

The Michiana Gem & Mineral Society, a non-profit organization, is affiliated with the Midwest Federation of Mineralogical and Geological Societies and with the American Federation of Mineralogical Societies.

## Regular Meetings

Time:	2:00 PM EST	Place:	Wesminster Presbyterian Church
	4th Sunday of each month		1501 W Cleveland Road
	June - Field Trip Meeting		South Bend IN
	July - No meeting		just west of the St Joseph River
	August - Annual Club Picnic		
	December - Christmas Party		
	(date to be announced)		

## DUES

Individual	\$ 6.50 per year
Family	\$ 10.00 per year
Junior	\$ 2.00 per year

## ROCKFINDER STAFF

Editor	Larry Hess	15358 Kerlin Dr, Granger IN 46530
Co-Editor	Margaret Heinek	7091 E East Park Ln, New Carlisle IN 46552
Staff	Bob Heinek / Club Members	

All contributions for publication should be in the hands of the Editor (219 272-5431) by the 10th of each month.

Permission is hereby granted to reprint, at any time, items published in the ROCKFINDER provided due recognition is given.

# THE ROCKFINDER

Volume 33  
Number 6

September 1993

Published by:  
Michiana Gem & Mineral Society

**Meeting:** September 26, 1993  
Doors Open 1:30 PM  
Meeting at 2:00 PM

**Place:** Westminster Presbyterian Church  
1301 E Cleveland Road

**Hosts:**

Viola Robinson  
Lorraine Jordan  
Doretta Fields

**September Program:**

The Bead Workshop  
Mineral Bead, Projects and Classes  
Juniors: hands on bead project.

**September Birthstone - Sapphire**

Any one of the hard, transparent, colored varieties of corundum which when cut are used as gems. Usually blue to deep pure blue with less common pink and others.

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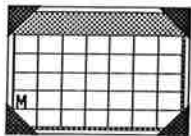
**Happy Birthday & Anniversaries**



- 8 Paul Stone
- 18 Donald Erb
- 19 Gertrude Orrell
- 21 Tom Fields
- 21 Marsha Miller
- 26 Kenny Zeiger
- 29 Ozzie & Jo Kytta



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**Calendar of Events:**

Sept. 16-19 American Federation / RMF  
Gem & Mineral Show  
Denver Merchandise Mart

Sept. 17-18 Tulip City Gem & Mineral Club  
1993 - 24th Annual Show  
Holland Civic Center  
150 West Eighth St

Oct. 2-3 Gerald E. Eddy Geology Center  
Annual Geology Arts Fair  
Eddy Center - Chelsea MI  
(313) 475-3170

Oct. 8-10 Greater Detroit Gem & Min. Show  
Detroit Light Guard Armory

Oct. 15-17 Three Rivers Gem & Mineral Soc.  
Ft Wayne Gem & Mineral Shop  
Allen County Fair Grounds  
(219) 489-2143

Oct. 29-31 Central Mich. Lapidary & Min Soc.  
"Nature's Sparklers" Show  
Marshall St Armory, Lansing MI

Oct. 29-31 Midwest Faceters Guild  
1993 Midwest Faceters Fair  
Dearborn Civic Center, MI  
(313) 465-3622



**Margaret's  
Column**

This is being written before our Labor Day Weekend show. Bob and I will be leaving right after Labor Day for the American Federation Convention in Denver and I imagine I will not have too much time for letters.

Thirty one members attended our picnic on August 22, and the weather was ideal. As usual the food was special. Marie fixed the best sausage and hot dogs and Bill grilled them. There were quite a few birthdays celebrated this month, and Cindy Hess had made a beautiful cake with (almost; editors note) all their names on it. She made the club emblem on it out of frosting. Everyone thought it was good. I took a picture of it and hope the picture will turn out good. If you had a large Corningware dish at the picnic, please check to see if have a glass lid that belongs to Mollie. Someone picked up hers and left one that is not hers!

I need some input from the membership, so please let me know your ideas. I had planned on having a Christmas Party at a restaurant, but due to remodeling, the restaurant canceled the reservation. Shall we have the party at the Church as usual or should I try to make the reservation at another place?

Where do you want to go on our bus trip? One suggestion is Field Museum and Lazzadro Museum. Would you like to attend the Nature Reserve we went to by bus in Michigan last year? The date is October 3 and 4. So we will have to know soon. So that I can make arrangements for the bus.

As most of you know, Larry Hess is taking over the editorship of the ROCKFINDER. He will need help with articles, so write something for him to put into future issues. Many of you made trips this summer, attending shows, conventions, rock hunting and sight seeing, so write something for the ROCKFINDER. Gordon Dobecki went to Europe for several weeks and he did some rock hunting in the Western U.S. Pam and Alec Rubenstein were in Canada at the amethyst mines. Bob and I had hoped to do some hunting at Amelia Courthouse, Virginia, but the owner decided to close the mine. The members of the Eastern Federation were upset over him closing it when so many people wanted to hunt. We heard there was good star quartz found there, as a matter of fact, we saw some stones with good stars. Where did you go?? Let Larry know.

Joyce took third place in the Midwest Federation Bulletin contest. As the top five winners are sent to National, we are waiting to see how she did there. We won't know until Denver when the National winners are announced. **Congratulations Joyce.** You did a good job!

I would like to thank Tom Noe for picking up the cases for the show from storage. My special thanks go to all of you that are planning on working to make our show a good one. Today I had a call from Alabama asking who the dealers were, and when she heard their names she said they were coming up for it. That's a dedicated rockhound! I understand we will have people coming from North Carolina, Upper Michigan, Ohio and Alabama. Wow, sounds good.

Bill, the wheel is REALLY good, the youngsters should enjoy it. Hope they don't miss the sand box too much, but it is just too big a job for us to place it in the show. If someone would do the job, we could use it again.

*Margaret*

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**Michiana Gem & Mineral Society  
Membership Roster Update.**

(New members, renewals, roster errors, address changes, etc.)

Thomas Nace  
20398 Miller Road  
South Bend IN 46614

Jimmy & Zella Crump  
46550 M-140 Hwy  
Covert MI 49043

Mary Ellen Handwork  
1111 N. Niles Ave  
South Bend IN 46617  
(219) 232-6236

Joseph Kossack  
3373 Ash Maple Ct  
South Bend IN 46628  
(219) 277-5206

Joan Scherer  
P O Box 4803  
Fairview NM 87533-4803



**SECRETARY'S  
REPORT**

**MINUTES OF THE MAY 1993  
MICHIANA GEM & MINERAL SOCIETY**

President Heinek opened our regular meeting. New member Mary Ellen Handwork was welcomed, as were guests Bert Handwork and Marge Collins' mother. The April minutes were accepted as printed in The Rockfinder. The treasurer's report was accepted and filed for audit.

Committee Reports

Program - Today's program will be a stereo (3-dimension) slide show.

Education - Paul Godelli's next fossil class will June 5 at his home. Gordon Dobecki's classes have ended. He will start a new session in the fall.

Displays - Samples were brought in by Bob Miller from Crater of Diamonds State Park, and Paul Godelli brought in a fern leaf calamite branch. Pictures from last year's trip to the CZ factory were displayed too.

Old Business

This year's picnic will be August 22, as announced in last month's Rockfinder.

New Business

Volunteers are needed for our fall show which will be September 3, 4, and 5. Please call Margaret to volunteer, and **DON'T BE SHY!!** Everyone's help is needed if we are to have a successful show. Volunteer to chair a committee if you can. Remember, the earlier you start your task, the easier it will be.

Attendance included 32 members, 2 guests, and 5 junior members were present. Door prizes were awarded to Viola Robinson, Alec Rubenstein, and Joyce Larson.

Respectfully submitted,

**Pam Rubenstein**



**JUNIORS' PROJECT**

A big thank you goes to Gordon Dobecki, Paul Godelli, Marilyn Meier, and Phyllis Smallwood for donating materials for the juniors' project. I purchased material from some of the remaining states at the DuPage show over Memorial Day weekend. We still need rocks/minerals/fossils from the following states:

- |               |                |
|---------------|----------------|
| Connecticut   | Delaware       |
| Maine         | Massachusetts  |
| Nebraska      | North Dakota   |
| Rhode Island  | South Carolina |
| West Virginia |                |

There are several junior members who began this project but are no longer active in the club. I would really appreciate it if they would pass their collection on to new junior members. (There are two new juniors who would love to receive such a "hand-me-down".) Call me at 291-6547 and I will arrange to pick everything up.

Pam Rubenstein



Humorous Gems from -  
Jim Toney's

**Glossary of Rockhound Terms**

GRINDING WHEEL - A bearing going out on your old truck.

FIELD TRIP - When you fall down, outside.

QUARTZ - A bottle size that milk comes in.

AGATE - A door in a fence.

LAPIDARY - What the cat does at milking time.

FLINTKNAPPING - A sleepy rock.

MAGMA - Mag's mother.

RHODOCHROSITE - Highway where crows can be seen.

Some things never change, do they?

"The art of taxation consists in so plucking the goose as to obtain the largest possible amount of feathers with the smallest possible amount of hissing" - Jean Baptiste Colbert, circa 1665.



## Editor's News

The major activities of the season are behind us now, summer vacations, field trips, and of course the gem & mineral show. This is my first Rockfinder and it has been fun! All of your contributions, suggestions, and help has been greatly appreciated. Although I have put it together with your help, I must say there was one person that "made it all happen". Joyce. Without her outstanding system and input, I could never have done it! Thanks again Joyce.

The Midwest Federation field trip to Houghton was one major activity for us this summer. I think our experiences were all very positive. We went hunted at a dozen old mine piles, collected in the Caledonia Mine, went on the MWF tours, and visited the Seaman Mineralogical Museum. Inside the Caledonia mine was scary, as one lady commented "Well, I know one thing I'm not doing next summer". Cold, wet, dark, bats, but it really teaches you how to find specimens. It's an experience you probably never forget.

It's a small world. In talking with the Caledonia Mine owner, Richard Whiteman, I find he's from South Bend! Went to school here and was even an MGM member. After high school Richard went to Michigan Tech and wound up the mining business. Now they work the mine through most of the year and spend part of the winter in Arizona.

On another subject, please call me at 272-5431 with inputs or suggestions for the Rockfinder. Ideas for future meeting programs would be appreciated.

It seems whatever you pick up these days, fossils and dinosaurs are in the news and the newsletter of the Northwest Federation is no exception. A very nice article, "Fossils in Indiana" was on page 8 of their July newsletter. And, guess what, it was written by our favorite fossil expert, Paul Godollei. Fine job, Paul!

Brian Hess has a great new video "Basic Soldering Techniques." He may loan it out if you ask.

Cheers,

## Member Profile #2 by

**Sister M. Jeanne Finske, C.S.C**

I have been a member of the Michiana Gem and Mineral Society since 1986 when I joined after attending the annual gem show. Having taught geography all my life I am fascinated by all aspects of the natural environment, especially birds, wildflowers, and rocks.

I was born and reared in Michigan City, Indiana, attending St. Mary's grade school and high school together with my brother and two sisters. After graduation I entered the Congregation of the Sisters of the Holy Cross at the motherhouse in South Bend in 1942.

My elementary school teaching career began at St. Joseph's School in South Bend, continued at St. Patrick's School in Danville, Illinois through 1955. I later returned there as principal in 1980.

In 1955 I was sent to Saint Mary's College to teach in the Education Department. I held various offices at Saint Mary's until I left there in 1978 to work with Sister Georgia in developing a skills enrichment program for inner-city children in Flint, Michigan. For the past seven years I have been associate professor of geography and religious studies at Holy Cross College.

My education after high school includes a bachelor's degree in education from Saint Mary's College, Notre Dame; a master's degree in social science education from the University of Detroit; a Ph.D. in Educational Administration from the University of Michigan; and Post-doctoral study at the University of Arizona in Tucson.

Educational travel includes study seminars in Egypt, India, Hawaii, and a University of Akron summer tour, "Classrooms Around the World" which took us to Tokyo, Osaka, Taipei, Hong Kong, Bangkok, Kabul, New Delhi, Tashkent, Moscow, Prague, and Copenhagen. Three summers ago I spent five weeks studying and traveling in France, Italy, and the Holy Land. Recreational travel has taken me to or through most of the United States and southeastern Canada.

Since joining the MGM Society I have developed a modest collection of identified rocks and semi-precious stones and have begun to learn the skill of polishing stones for jewelry. The camaraderie and expertise of the members have kept me involved and have stimulated my growth in the knowledge and appreciation of gems and minerals.

## SOME BASICS OF MINERAL IDENTIFICATION

by Diane Dare

Minerals are COMPOSED of one or more chemical elements, and they have a definite chemical formula. Knowing the chemical composition can be important when cleaning a specimen. A silicate like quartz can be soaked in water, but soaking halite isn't such a good idea. Let's look at some ways to identify minerals.

Minerals are IDENTIFIED by characteristic physical properties. These properties are generally detailed in the FIELD GUIDE BOOKS. It's a good idea to have at least one guide book, and to be familiar with it -- with the terms, the arrangement and how to use it.

COLOR is an obvious property and usually the first thing noticed, but color is not as important as when you are trying to identify a flower or bird. In some cases color is a fundamental and consistent property. Sulfur is always yellow, malachite is always green, and neither of these is ever purple. So sometimes color can be used to determine what a specimen can, or can't be.

Color is often caused by minor chemical impurities, which can create a variety of colors without changing the basic chemical formula. Quartz, for instance, can be found in almost every color. Garnets, which get their name from pomegranate, are always red, right? Wrong! Garnets can be red, brown, yellow, pink, purple or green.

LUSTER, like color, is an observable property. Luster is the way light reflects from the surface of the mineral. There are two divisions: Metallic and non-metallic. Metallic minerals like galena, LOOK like metals. Non-metallic lusters have many names, most of which are obvious. Glassy or vitreous, waxy, resinous, pearly, silky, dull, greasy. Sometimes these are judgmental: gypsum is described as glassy, pearly, AND silky. And if you rub a hand across a piece of the "satin spar" variety gypsum, you will be full of small sharp fibers like tiny cactus spines. Silky indeed!

The STREAK is the mark a mineral will make on unglazed porcelain, IF you have an unglazed porcelain and IF it's the kind of mineral that leaves a streak. The unglazed porcelain can be the back of a small bathroom tile or the edge of a broken cup or plate. Rub the mineral (don't use the point of the best crystal but use the bottom or a poor area) across the tile to see the color of the powdered mineral. The color of the streak may be different from the color of the mineral. Hematite, no matter how black or steely-looking, always leaves a red streak, and pyrite always makes a black one, which is an easy way to

tell this "fool's gold" from the real thing. This test does not work too well on the inside of a geode, or with micro-minerals, or on rocks with several minerals in them. And only minerals that are 'softer' than the tile will leave a streak on it...and that leads us into...

HARDNESS. Dirt you can crumble, clay you can squish but ALL rocks are hard. It does not matter what kind of rock you get in your shoe, it is hard! But there are different degrees of rock-hard. In 1822 a German mineralogist, Friedrich Mohs, devised a scale of hardness that we use today which assigns a number between 1 and 10 to each mineral. One is softest, talc, and 10 is the hardest, diamond. There is no mathematical relationship in this scale: 4 is not twice as hard as 2. But a mineral with a higher number will scratch anything with a lower number, and in turn can be scratched by those higher than it. Fluorite is 4, quartz 7, so a piece of quartz will scratch the softer fluorite, but the fluorite won't hurt the quartz.

Hardness is important when you are tumbling material because if you mix materials of different hardnesses, they will polish at different rates. Hardness is important too in jewelry use. Most gemstones are over 6. There are kits you can buy for hardness testing but for field testing a fingernail is about 2½ on Mohs scale, a copper penny is 3, and a pocket knife blade is about 5½. Test the hardness on the back or underside of the specimen, pressing the point firmly against the specimen, then run it across. If the specimen is softer, you will feel the catch or bite as the point cuts the surface. If the specimen is harder, the point will slide across the surface. Wipe off any loose powder to be sure the surface really did get scratched.

Another obvious property, sometimes is CRYSTAL SHAPE, Crystal form is determined by the atomic structure and because of this regular and orderly arrangement, can be an important identification guide. In most guide books the crystal or description is separate from other physical properties, and there is a simple sketch of the crystal shape.

This ought to be easy. For instance, calcite is a hexagonal crystal. "Hex" means "six". so calcite should have six sides. Easy? No, 'cause calcite comes in several HUNDRED different crystal forms, all variations on the "six" theme. The study of crystal shapes is a whole separate area.

The GROWTH HABIT of a mineral may have little or no resemblance of the crystals in groups or aggregates, such as fibrous, tabular, needlelike, dendritic or tree-like, and so on. Pyrite crystals are cubic, but a pyrite 'sun' has a radiating habit. If you drop your specimen on the floor and it breaks, you

can check the pieces for cleavage and fracture. It can also be a mess, or a disaster, depending on how special the piece was.)

CLEAVAGE is a tendency to break in different directions, in smooth flat planes related to the atomic structure of the mineral. Mica splits into thin sheets, so we say it "cleaves in one direction". Cleavage is described by the number of cleavage directions, or by the resulting form. Fluorite cleaves well in four directions, which is why it is possible to make fluorite 'diamonds' by splitting along cleavage planes. Galena has perfect cleavage in three directions at right angles to one another, so if the specimen you dropped was galena, you'll pick up lots of perfect little cubes.

Where cleavage is regular shapes, FRACTURE is an Irregular break, like the rough jagged or "hackly" break of metals such as copper, or the shell-like conchoidal break of obsidian. Not all minerals show cleavage, but they do show fracture.

SPECIFIC GRAVITY is the weight of a mineral compared to an equal amount of water, or its density. Something with a specific gravity of 2½ is 2½ times as heavy as an equal amount of water. There are special scales you can get to measure this but with practice you can learn to 'guess-timate'. You can tell if a specimen feels light or heavy for its size!

LOCATION and ENVIRONMENT can be a big help in identification, the area the specimen came from, and the type of matrix around the specimen. After all, you are NOT likely to find obsidian, a volcanic material, in sedimentary coal layers. And purple crystals from a fluorite mine are probably NOT amethyst.

All these physical properties I have mentioned can be observed or checked easily with no special tools or equipment. Other properties of a mineral might include fluorescence, magnetism, or radioactivity. Chemical test can be done, such as using acids to determine the solubility of the specimen. Reading the descriptions in your guide books and practicing the basic tests will help you become familiar with the physical properties of minerals and how they can be used for identification purposes. Of course you will still have that occasion piece for which (this verse from an old issue of Gems & Minerals) was composed:

I've looked into Pough's,  
And I've memorized Mohs.  
I've even paid Dana a visit.  
But when it's all said,  
I still scratch my head  
And sit here and wonder, What is it?"

-- from RRC Newsletter.

## MICHIGAN'S STATE STONE- THE PETOSKEY

Who said rocks do not talk? For example, a Petoskey Stone, through legend and facts, can tell you much about Michigan history and geology.

Legend and history are often intertwined. Such is the case with the Petoskey Stone. The name Petoskey Stone likely came about because it was found and sold as souvenirs of the Petoskey area. The name Petoskey appears to have originated late in the 18th century. Its roots stem from an Ottawa Indian legend.

According to legend, a descendant of French nobility named Antoine Carre visited what is now the Petoskey area and became a fur trader with the John Jacob Astor Fur Company. In time he met and married an Ottawa Indian princess. Carre became known to the Indians as Nea-a-tooshing. Eventually he was adopted by the tribe and was made chief.

### PE-TOS-E-GAY, THE INDIAN

In the spring of 1787, after having spent the winter near what is now Chicago, Chief Nea-a-tooshing and his royal family started home. Enroute, the party camped on the banks of the Kalamazoo River. During the night a son was born to the Chief. As the sun rose its rays fell on the face of the new baby. Noting the glorious sunshine on his son's face the Chief proclaimed, "His name shall be Pe-tos-e-gay (or Be-dos-e-gay, there are several versions). He shall become an important person." The translation of the name is "rising sun", "rays of dawn", or "sunbeams of promise."

True to his fathers prediction, Pe-tos-e-gay became an important person. He was a fur trader and merchant who acquired much land and wealth. His appearance was outstanding. His skin was smooth, his eyes sharp and deeply set, and he spoke English quite well. Ultimately he married the young daughter of Chief Pok-o-zee-gun, an Ottawa Chief from the northern southern peninsula of Michigan. They had two daughters and eight sons.

### PETOSKEY, THE CITY

In the summer of 1873, just a few years before the death of Pe-tos-e-gay, a city came into being on his land along the bay at Bear Creek. The site was a field overgrown with June grass. Only a few nondescript buildings existed. The population was not more than 50 or 60. It was named Petoskey, an English adaptation of Pe-tos-e-gay. Thus they honored someone who gave his land, name and the heritage of "sunbeams of promise."

Today, Petoskey is a growing city with all of the comforts of modern life and an appreciation of the



past. This is where Petoskey Stones are found. For those who look, Petoskey Stones are along the beaches, inland in gavel deposits and in gift shops.

### PETOSKEY, THE STONE

The most often asked question is, "What is a Petoskey Stone?" Petoskeys are a fossil colonial coral. These corals lived in warm shallow seas that covered Michigan during Devonian time, some 350 million years ago.

Almost a century after the founding of Petoskey, on June 8, 1965, Governor George Romney signed a bill that made the Petoskey Stone Michigan's official State Stone. It was fitting that Miss Ella Jane Petoskey, the only living grandchild of Chief Pe-tos-e-gay, was present at the formal signing.

The legislation is very general. The bill simply states that the Petoskey Stone is the State Stone. The designation of *Hexagonaria percarinata* was made by Dr. Edwin C. Stumm in 1969. Dr. Stumm made this distinction based on his extensive knowledge of fossils.

This specific fossil coral is found only in the rock strata known as the Gravel Point Formation. The Gravel Point Formation is part of the Traverse Group of Devonian age. The Gravel Point Formation is a mixture of limestones and shales. The outcrops of these rocks are restricted to the Little Traverse Bay area near Petoskey.

The Gravel Point Formation is only part of the Devonian geologic history found in Michigan. Devonian age rocks form the bedrock for much of the northern Southern Peninsula. Devonian rocks outcrop at less than three percent of the surface of the United States. Michigan's average is much higher. Much of what is known about the Devonian is interpreted from the fossil record.

### PETOSKEYS AROUND THE WORLD

At least seven different species of the genus *Hexagonaria* are found in Devonian rocks in Michigan. The Petoskey Stone family of corals are found in Iowa, Indiana, Illinois, Ohio, New York, Canada, Germany, England and even Asia. These corals are difficult to distinguish from each other on casual inspection. In order to tell these corals apart you must become familiar with coral anatomy and the related terms.

Pleistocene glaciers (about 2,000,000 years ago) plucked Petoskeys (and many other rocks) from the rock and spread them over Michigan and surrounding areas. This is why Petoskeys can be found in gravel pits and along our beautiful beaches far from the Petoskey area.

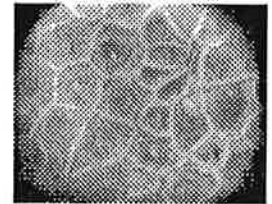
During Devonian time, Michigan was quite different. Geographically, what is now Michigan was near the equator. A warm shallow sea covered the State. This warm, sunny sea was an ideal habitat for marine life.

Life forms were abundant and varied. Some would be easily recognized, others would not. If you were to visit a tropical reef today you would see a wide range of life forms. Some you would recognize, many would appear strange and unknown. A Devonian reef would have sheltered clams, cephalopods, corals, crinoids, trilobites, fish and many other, even stranger critters. During the Devonian, land plants were taking hold and primitive amphibians were also getting their start.

The process of plate tectonics explains that since Devonian time the continents have moved to new locations. The shape, size and climate of the land masses have changed too. Related to this movement is the subsequent uplifting of Michigan. This caused the sea to vanish and dry land to form. The migration of the continent to the north resulted in a cooler climate as well.

### POLISHED PETOSKEYS

Many people see their first Petoskey in a polished form. Petoskeys are primarily calcite. However, quartz, pyrite and other minerals could be present. The corals are found in limestone which can have a sizable amount of clay in it. Due to differences in hardness and ability to take a polish, impurities affect the final product. The possibilities of what can be created with Petoskeys is limited only by the imagination.



Not all specimens are suited for polishing. Some are too porous or have too many impurities. Others may show features that would be eliminated by grinding and polishing. Along the beaches and in most gravels the stones have already been rounded by glacial and water action. Most of these are well suited for lapidary and the results are worth the effort.

-- Michigan Department of Natural Resources publication, May 1991 via The Rockpile.

## A FIELD TRIP TO WABASH, INDIANA

by Paul Godollei, club member.

The trip to Wabash started at my home at 8 AM, on Saturday, June 19th --

Tom Noe, Margaret Schultz, Lorraine Jordan, Pam and Alec Rubenstein and Paul Godollei were on the field trip. We went in two cars, and travelled down Route 31 South. We stopped at the Apple Dumplin Inn for breakfast, and turned off towards Wabash on Route 24. I couldn't find the RR cut for my first planned stop, since it had been about 25 years since I had hunted for fossils in this area, so we continued on to Wabash. We went too far on Manchester Ave, and turned back. I finally found Allen Street that led South to the old RR station, and we parked the cars and walked about 100 yards East along the tracks to the large reef structure that is known to geologists everywhere. It was quite a sight! The rocks were tilted upward at about a 45 degree angle on the West and then humped over the top to form a dome and continued down on the east side at the same steep angle.

The railroad cut went right through the reef. We looked for fossils along the seams and cracks in the rock, and in the fallen rock along the tracks. We found some calcite crystals, brachiopods, pelecypods, crinoid stems, and plant remains.

After about an hour and a half we walked back to the cars and continued over to Wabash Street and turned South across the Wabash River. We parked the cars at the foot of a very large road cut through the Wabash limestone and Mississinewa shale of Upper Silurian Age. We looked at the bottom of the cut and found a few plant fossils and crinoid stems. We continued out on Manchester Ave. East, until it joined Route 24 again, and drove 5 miles to Lagro. We turned South on route 524 in the center of town, and followed the road across the river and turned east again. We continued straight on a narrow road after passing the road that led to the Salamonie State Forrest, and after about 3/4 of a mile came to Hanging Rock, on the left, on the banks of the Wabash. This famous formation has a path leading to the top, and a steep trail down to the rivers edge. We had a lot of fun climbing around, while the ladies sat down and talked. Tom found part of a cephalopod, and we also found small brachiopods, trilobite parts, pelecypods and crinoid stems. We were hungry and drove back to Wabash.

We then drove to City Park and had lunch at a picnic table. It was very pleasant, with playground equipment for the children, and lots of flowers and trees.

We took old route 24 out of town West, past a water filled quarry, and on to our final stop, a railroad cut under route 24 about a quarter mile from the village of Rich Valley. The ladies stayed in the car, since the bank was very steep from the road to the RR cut.

We found lots of nice calcite crystals and fossils, but the main feature was to look at the twisted and folded rocks in the side of the cut. The rocks were at a very steep angle and had been pushed as noted in various publications describing the "Wabash Arch." Described as Niagara Dolomite in early papers.

The weather was hot and humid, but the predicted rain failed to materialize, much to our relief.

We had a very pleasant trip with an enthused group who enjoyed the experience, and we hope to make another field trip soon.

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MY CREATION

On Saturday I went to my first meeting at the Gem & Rockhound Club. I had no idea what to do at first.

Jim, the instructor, gave me a stone called a Petoskey. The rock was very dull and looked ordinary.

After I received my rock I had to put on goggles to protect my eyes and an apron.

At my first time at the wheel, I held my rock in one place too long, which made a "valley" in my rock.

After a while though, I developed a rocking motion to move my rock in. When I finished removing all the scratches on my rock I was amazed at the result. The rock was polished and very shiny. Now every time I look at that rock I can say, "I made that."

by Angela Capuano Junior Member

Toledo Gem & Rockhound Club

### MY FIRST EXPERIENCE AT THE GEM & ROCKHOUND CLUB

I went to the Gem & Rockhound Club. There an instructor named Jim gave me a dull and ugly rock that is called Petoskey.

Jim took me to a machine that has wheels and he showed me how to take off part of the stone. I was a little afraid at first because I thought the machine would take off part of my fingers.

I then went to another machine which did finer work on the stone.

The final thing I did was to go to the polishing machine and polish my stone.

When it was done I felt real good about myself because of what I had accomplished with my dull and ugly stone.

by Jeff Capuano Junior Member

Toledo Gem & Rockhound Club

-- via RRC Newsletter

## INDIANA FOSSIL COLLECTING SITES

by Paul Godollei, club member.

### DEVONIAN FOSSILS-

Devonian Rocks In Indiana are noted for their abundant corals, stromatoporoids, and bryozoans, which formed widespread reefs. Brachiopods are also common, with crinoid remains, ammonites, cephalopods, gastropods, pelecypods and trilobites more difficult to find.

The old France Stone Co quarry 2 mi. east of Logansport in Cass County on US Highway 25 has been turned into a county park, but you can still look for fossils. The main part of the quarry is under water, but around the edges the cliffs rise on 3 sides. The Devonian corals are at the southeast end of the quarry, in the upper 16 feet. The stromatoporoids and corals are hard to extract from the surrounding rock. Silurian formations below give this quarry a double exposure.

The best Devonian corals can be found on the southwest edge of Jeffersonville in Clark County. The Falls of the Ohio are famous for the quality and variety of fossils found here since the beginning of fossil collecting in America. Low water in July and August after a period of little rainfall is best. Look in the river banks along Riverside Drive at the Pennsylvania RR bridge and downstream near dam #41.

If the Ohio River water is high, the same fossils can be found one mile north of Carwood north of Ind Highway 60. Go north of Carwood on the secondary road past two road intersections and a roadcut 1 mile north of town and just south of a small stream crossing is where you will find green shale with small corals, brachiopods, crinoid stems, bryozoans and cephalopods. Find where they have weathered out of the shale, or take a bucket of shale home and wash it and strain it, pouring off the muddy water through a small sieve or cheesecloth. The small fossils will be caught.

The old T.J. Atkins and Co. Inc. quarry 1 mile northeast of Claysburg, in Clark County has yielded some nice Devonian brachiopods.

The Louisville Cement Co. quarry 1 mile N.E. of Speed in Clark County abounds in Devonian corals and brachiopods in the upper 56 feet of the quarry face.

The Scott County Stone Co. quarry 2 mi. south of Blocher has many solitary and colonial corals in the lower part of the quarry face. They are difficult to extract from the enclosing limestone.

The Meshberger Stone Co. Inc. quarry approx. 2 mi. N.E. of Elizabethtown in Bartholomew County has yielded stromatoporoids, brachiopods and corals in certain beds of the upper 48 feet of Devonian limestone. The underlying brown and grey-brown strata, also of Devonian age, contains few fossils.

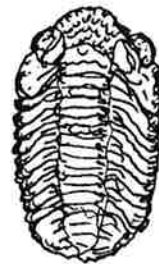
BIBLIOGRAPHY: "Adventures with Fossils", by Robert H Shaver Indiana Dept. of Conservation, Geological Survey Circular #6, 1959, lists 34 collecting sites.

"Midwest Gem, Fossil and Mineral Trails", GREAT LAKES STATES, by June Culp Zeitner-Gem Guide Books Co. Pico Rivera, California 1988.

"The Geology of the Falls of the Ohio River" Circular #10, State of Indiana, Department of Natural Resources, Geological Survey, by Richard L. Powell, 1970. Bloomington Indiana. Price \$1.00.

"Fossils-Prehistoric Animals in Hoosier Rocks", by T.G. Perry - Ind. Dept of Conservation, Geological Survey Circular #7, 1959.

Heterophrentis Prolifica  
Cup Coral



Phacops rana  
Trilobite



Gastropod  
(Snail)

**The Midwest Federation  
Council Meeting, August 13, 1993  
by Phyllis Smallwood**

The meeting was called to order and the Officers and State Delegates were introduced. Two nominating committee members were elected by the delegates for three year terms, Nellie Claxton and Dean Stone. The officers for the following year include Marvin Starbuck, President; Anne Cook, First Vice President; Mary Hanning, Second Vice President; Jean Reynolds, Secretary; Norm Hanchu, Treasurer.

Each of the officers and state directors gave short reports on their areas of interest. Many of these reports, and some for people not attending the meeting, are included with the Federation Financial Report for 1993.

The 1992 Bacus Bill was discussed and it was suggested that everyone write to their Congress/men/women to voice their opinion. A vote to keep lands open for public collecting is important.

Tony Verdi, Hinkley Ohio, is establishing a committee to propose fossils for placement on postage stamps. Letters to the U.S. Postal Service would help this cause.

It was recommended that every club establish an active Merit Committee to recognize special efforts of club members. Any community service (eg. Adopt a Highway, Science Alive, school programs, etc.) efforts, by clubs or club members, should also be reported to the Federation, for recognition. The Federation would also be pleased to see more programs added to the program library for showing by the clubs.

A request was made that all clubs or members send canceled stamps to the Federation. These will be accumulated by the American Federation and sold for stamp collecting. The proceeds will enter the American Federation Endowment Fund.

A report was made on the Junior Member Summer Camp and the activities it includes. Plans are being made to expand the camp for next year.

The meeting included a discussion concerning State rocks, minerals, fossil and gems. If your state does not have one letters should be written to suggest good candidates. The Michigan minerals are Hemitite & Copper.

The break for lunch was a real treat. The food was excellent and was catered by the University.

After lunch, some items of administrative business were discussed. First, an amendment to Section 7 of the by laws, concerning convention funding and profits. The Federation and the host club will now split show profit, seventy five percent to the club and twenty five percent to the Federation. In the

event of a financial loss, the Federation and club will share, fifty percent each, the loss. But, in this case, the Federation loss shall be limited to \$750.

Second, the Federation is very interested in our support of the Credit Card offer that returns funds to them and costs members nothing for the first year.

Last, a proposal to raise the Federation dues to per club member was proposed. After much debate it was approved to raise the per member dues by twenty five cents.

The meeting was adjourned at 2:00pm.

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**MICHIGAN'S GEM - THE GREENSTONE  
by Larry Hess**

Chlorastrolite, or Greenstone is a relatively scarce bright green gem stone. Many specimens resemble what might be an almost microscopic Petoskey Stone. It was discovered by Dr. C.T. Jackson during a U.S. survey of the mineral lands of Lake Superior in the 1840's. Greenstone has optical properties similar to thomsonite and hardness of 5.5. Isle Royale and it's beaches are the primary source of small Greenstone pebbles which also is found in trap rock. Greenstone is the Michigan State Gem.

Bibliography: The American Geologist, February 1899, pg 116-8.

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**PERIDOT**

Peridot has the unique distinction of being the only gem-crystal we know of at this time that sometimes comes to us from outer space. These peridots come embedded in meteorites. They are seldom of gem quality, although a few have been faceted and mounted in jewelry. Choice peridot is transparent and colored variously from light yellow-green to brilliant light green. Peridot has been called "evening emerald", for under artificial light the stone glows a brilliant emerald green.

Peridot seldom occurs in large sizes without flaws. Smaller peridots are fairly numerous and not too expensive. They are often mounted in clusters of three, or in combination with other gems. Peridots known by two names -- Ceylon Peridot and Ceylon Chrysolite are two of the names given to gems which are not true peridots. Burma produces some of the best peridot, although they tend to be darker green. Peridots can also be found in New Mexico and Arizona. Indians in the San Carlos Reservation, Arizona, hold exclusive rights to the peridots found on their property.

- via Arkansas Rockhound News, others.

**STORING and INDEXING YOUR FOSSILS**

by Paul Godollei, club member

Store your fossils in individual plastic boxes or shallow cardboard trays. A cabinet with shallow drawers is also very good for large collections. Very fine specimens may be displayed in individual plastic display boxes with an identifying card.

Large specimens may be stored on metal shelving. Label each specimen carefully. Give each fossil a number with india ink, in an inconspicuous place on the edge or back, with the corresponding number on a card in a card file index. The label or card should include the name of the fossil, the lithological unit and geologic age. The locality with a map reference is very useful, and the country or state, date, collector, or when purchased.

If the fossil has been glued together, the type of glue should be noted. If sprayed with preservatives, the type should be noted. A computer disc is an excellent place for duplicate records.

Never pile fossils on top of one another - they will be damaged.

BIBLIOGRAPHY: "Fossils" by Eyewitness Handbooks, Cyril Walker and David Ward are the authors. Publisher is Dorling Kindersley, New York, 1992, and the cost \$29.95

**TRILOBITES**

**CATEGORY: ARTHROPODA** Specimen No. 2004  
**Species: Flexicalymene meeki (Foerste)** Card No. 2

Superfamily: Calymenacea Burmeister 1843  
 Order: Proparia  
 Class: Crustacia  
 Phylum: Arthropoda  
 Family: CALIMIENDAE Burmeister 1843  
 Subfamily: FLEXICALYMENE Shirley 1936

Reference: #2 pp 112,113, #3 pp 166,167, #7 pl #1,22

Formation: Upper Ordovician Age, Richmond Formation  
 Locality: Westwood Northern at Boudinot, Cincinnati Ohio  
 Collector: self Date Collected: 1958

2 B 4

**TRILLOBITE**

Date: 1957 <sup>2004</sup>

Trilobite, Ordovician



**Flexicalymene meeki**  
 Trilobite. Cephalon characterized by sharply defined glabella with 3 deep lateral grooves. Pygidium small, continuing pattern of body segments. Fig. 23: Front of enrolled specimen. Mayville and Richmond.

Location collected: Westwood Northern, Boudinot Cincinnati, Ohio



23 ✓

Box Label

Specimen Number 2004



\* Minerals From A to Z \*

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

WORD LIST

- / AGATE
- / DIAMOND
- / GYPSUM
- / JADE
- / MESOLITE
- / PYRITE
- / SULFUR
- / VIVIANITE
- / WULFENITE

- / BORAX
- / EMERALD
- / HOWLITE
- / KERNITE
- / NICKEL
- / QUARTZ
- / TALC
- / XENOLITH

- / CHALCEDONY
- / FELDSPAR
- / INESITE
- / LIMESTONE
- / OPAL
- / RUBY
- / UXELITE
- / ZIRCON