

# THE ROCKFINDER

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



# THE ROCKFINDER

FEBRUARY, 2000

# MICHIANA GEM & MINERAL SOCIETY

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

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



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 Yearly Membership Dues (Payable by January 1)

\_\_\_\_\_ Individual \$10.00 per year  
 \_\_\_\_\_ Family \$15.00 per year  
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The Michiana Gem & Mineral Society, a not-for-profit organization, is affiliated with the Midwest Federation of Mineralogical Societies and with the American Federation of Mineralogical Societies.

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Name \_\_\_\_\_  
 Birthday \_\_\_\_\_

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Signed \_\_\_\_\_ Date \_\_\_\_\_

# THE ROCKFINDER

Newsletter of the Michiana Gem & Mineral Society

Volume 40, Number 2

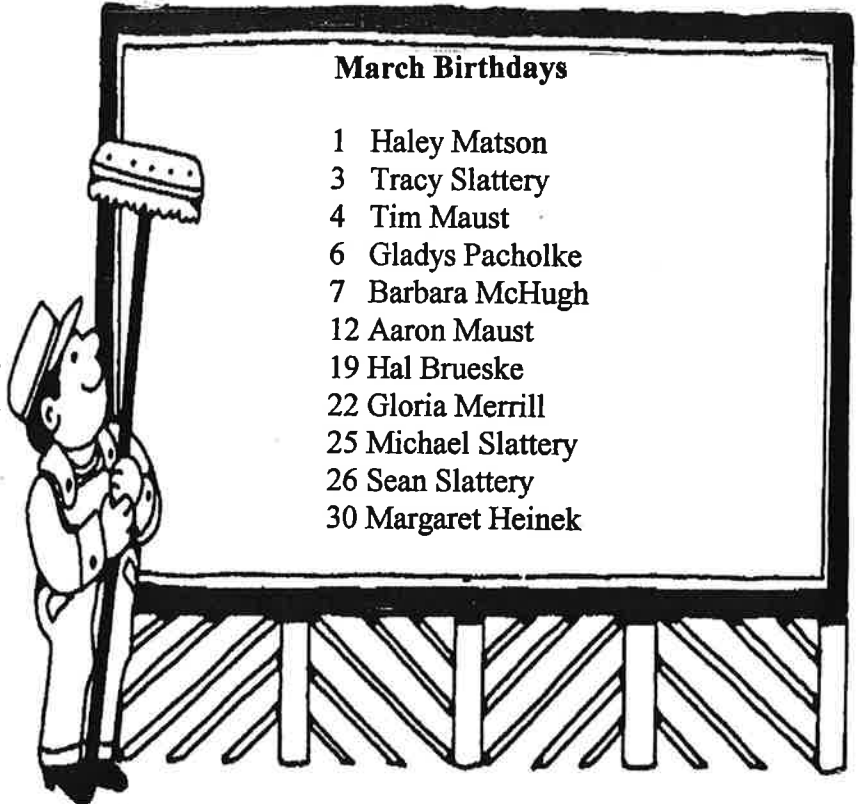
February, 2000

**Meeting:** Sunday, February 27, 2000  
Doors open at 1:30 p.m.  
Meeting starts at 2:00 p.m.  
Guest are always welcome.

**Place:** Our Redeemer Lutheran Church  
805 S. 29<sup>th</sup> St. (29<sup>th</sup> & Wall)  
South Bend, IN

**Program:** Ammonites and Cephalopods. Bob and Margaret Heinek will present fossils from their collection. Members are invited to bring ammonites for display.

**Hosts:** Pat Baker and Tim Maust



## UP AND COMING

- March 3-5: Greater Cincinnati area gem, mineral, jewelry and fossil show, Sharonville Convention Center.
- March 17-19: Central Wisconsin gem, mineral, fossil & jewelry show, Cedar Creek Mall, Rothschild (Wasau area), WI.
- March 18-19: Stark County Gem & Mineral Club show, Canton, OH.
- April 1-2: Columbus Rock & Mineral Society, with Licking County Rock & Mineral Society show, Veteran's Memorial, 300 W. Broad St., Columbus, OH.
- April 7-9: South Bend gem & mineral show, Century Center, South Bend, IN.**
- April 7-9: Mt. Clemens gem, mineral & jewelry show, Mt. Clemens Community Ctr., 300 N. Groesbeck, Mt. Clemens, MI.
- April 12-15: Central Illinois fossil show, Days Inn, 1400 N. Hwy 67, Macomb, IL.
- April 14-16: MAPS National Fossil Exposition — (this show's theme is teeth), Western Illinois University, Macomb, IL.
- May 13-14: Cincinnati Mineral Society show, Cincinnati Convention Center.
- April 5-8: Indian Mounds club show, Eastbrook Mall, Grand Rapids, MI. 25<sup>th</sup> annual show.
- March 10-12: Eastern Indiana society show, Wayne County Fairgrounds, Richmond, IN.
- March 17-19: Michigan Gem & Mineral Society show, Masonic Lodge, 355 Napoleon Road, Michigan Center, MI.
- April 1-2: Blossom Land Gem & Mineral Society show, Cook Nuclear Information Center, Bridgman, MI. (10-5 both days)

## MARGARET'S COLUMN



Hello, everyone. It seems we have had a long winter, but an easy one. At least we have not been snowed in. I sincerely hope you were all able to bypass the "flu/virus" that hit so many.

David Peltz gave a very informative program last month on flintknapping. There are so many facets to our hobby, and it is interesting to learn about other people's interests. Thank you, David. This is the type of program that we like, and they bring out our members and guests.

We have a new family as members from this program: Daniel and Beverly Howard and their daughter Andrea. Welcome! Thanks also to Sam Shapiro for sending out the publicity for the program.

In March we will be fortunate to have a program on wirewrapping by Lou Ellen Brown. Lou Ellen has been a demonstrator at many of our shows. I am sure this will be a good program for all you jewelry-makers.

We are looking forward to the April 30 meeting, which will be a tour of the Notre Dame mineral exhibits. We were there several years ago and enjoyed it very much. Sam is making the arrangements, and informs me that he has asked a graduate student to show us around, and we will have free parking. There will be more information available as the date approaches.

Bob and I will give the program this month on ammonites and other cephalopods. If you have some, bring them for display, and be sure to mark them with your name. We must make sure that they are not mistakenly picked up by others.

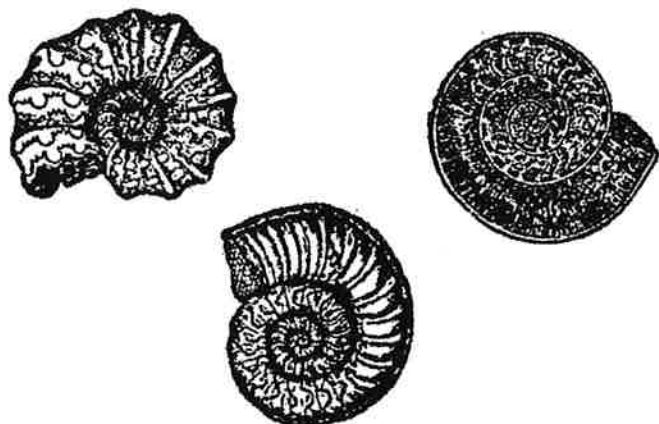
Bob and I are giving a short talk to teachers of the South Bend school system concerning the division of Earth Sciences. It appears that the school system has adopted a new approach and is asking people to come in and explain their area of expertise to the teachers. The park system sent someone to speak on animals and there have been speakers on water. It seems to me that this invitation may have

come about because of the packets we handed out at one of our shows a couple of years ago, since the teachers have been using them. I also asked the contact person if she could locate the displays that Michiana Gem and Mineral Society donated to the school system some years back. There were several large displays to be taken to the schools for the study of minerals. The lady said she is trying to locate them.

We had a good time at Science Alive; the children were really interested in our displays. Bob had put out a polished Petoskey stone, and I was afraid it would disappear--almost every child picked it up. I was surprised to see how many could identify some of the minerals and crystals we had on display. We gave limestone fossils and polished stones to those who could identify one or two of the samples. Our thanks to David and Sally Peltz and Tom Noe for working on Saturday. Bob and I were there, and also on Friday for several hours. The youngsters missed the polishing of the Petoskey stones, but they did enjoy the samples we handed out. We may get some new members from the attendees. So many families were interested in our club. Bob had printed up some instructions on projects that the youngsters could do in the classrooms, and we gave these to the teachers. They were things that Bob had found in other bulletins through the years, so he combined them and made up packets.

Stay well, and we will see you at the February 27 meeting.

**Bring your favorite ammonites  
to the March meeting for display.**





## MINUTES OF THE JANUARY 23 MEETING

President Margaret Heinek opened the meeting at 2:05 PM. Present were 25 members and one guest. Hosts for refreshments were Diane Gram and Pam Rubenstein.

There were many displays. Bob and Margaret Heinek brought in some old copies of *The Rockfinder*. Bob Miller displayed some arrowheads from Arkansas, Oregon and a few from Indiana. The Heineks also displayed some arrowheads from Indiana. These fit in well with David Peltz's program on flintknapping. Tom Noe brought in a quadruple geode he purchased from a rock shop in Wisconsin and then cut and polished, plus a large Montana agate and a couple of polished Mexican agates.

Margaret noted that any members who have e-mail addresses which they want included with their listing in the club roster should contact Bob as soon as possible.

The club has received thank-you notes from the YWCA, St. Vincent de Paul, the Center for the Homeless and the Salvation Army for our donations made at Christmastime.

**New Business:** Based on a suggestion made by Kathy Miller, we discussed changing the timing of the Christmas party (usually the first Sunday of December) and/or the November meeting (usually the weekend after Thanksgiving). After discussion, we felt that it might be better timing to combine the late-November meeting with the Christmas party, having this combined event on the first Sunday of December. This would mean that the election of officers (normally scheduled for the November meeting) would have to be held just before the party. We felt this would be better than the current situation. Bob Miller made a motion to this effect, seconded by Don Church, and the motion passed. So, there will be no November meeting; before the Christmas party on the first Sunday of December, there will be an abbreviated meeting to take care of elections and some business.

**Science Alive:** Our club will again participate in this event, which exposes youth to a wide variety of technological and scientific fields of in-

terest. It is scheduled for February 4 and 5 at the St. Joseph County Public Library. Margaret and Bob will be there on Friday for the at-risk youth, and asked for volunteers to help them out at the Saturday session, when about 6,000 young people are expected. David and Sally Peltz and Tom Noe volunteered.

Based on a suggestion from Librarian Diane Gram, Kathy Miller made a motion, seconded by Pam Rubenstein, to budget \$150 as a purchasing fund to increase the club library's holdings. Another suggestion was made to cull some of the old books from the library and either sell them to club members or to the public at the silent auction. David Peltz made a motion to this effect and it passed.

Tom Noe noted that it was time to renew our club subscription to ALAA, which is working for continued rockhound access to collecting sites on public land, and he made a motion that we send \$50 to ALAA. Bob Miller seconded the motion and it passed.

In discussion of field-trip possibilities, Sam Shapiro mentioned that there is a large geology and mineral exhibit at the engineering building at Notre Dame, and that he would be glad to investigate the possibilities of a field trip there, perhaps with a guide from the Geology Department. He'll check into it and we'll make a decision at the next meeting. We'll also look into the possibility of a Grand Rapids field trip in September, and Kathy Miller suggested that we might be able to join with another group in a field trip to the Mazon Creek fossil area in Illinois. She'll look into it.

Winners of door prizes included Sr. Jeanne Finske, Sam Shapiro, Yvonne Church and Emily Johnson. Phyllis Smallwood won the beautiful arrowhead.

After some delightful refreshments, David Peltz presented his program on flintknapping. Then Sam Shapiro closed the proceedings by reading a poem by Goethe (after whom the mineral goethite is named).

Submitted by Secretary Gladys Pacholke

## THE WONDERFUL MAMMOTH FIND

By Marie Zigler

It happened in Siberia sometime in 1999, the amazing find of a behemoth mammoth some 20,000 years old, frozen and preserved in the permafrost, encased in an icy mud tomb. Did you see on TV the strange sight of a helicopter airlifting this strange cargo, a massive block of ice with two strange looking tusks poking out from it? Besides the stories on the local television stations, *US News and World Report* and *Newsweek* (Nov. 1) had excellent articles pertaining to this find.

Known now as the Jarkov mammoth (after the family of reindeer herders who found it), it is thought to be a complete animal with skin, hair and soft tissue, a rare find. This may be the best preserved mammoth ever found.

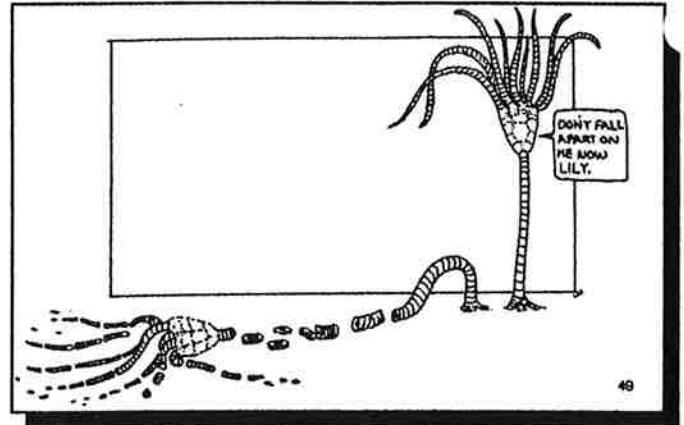
A team of paleontologists went to Siberia to work in temperatures that were sometimes 100 degrees below zero to excavate it. It was carefully left in the icy block and carried by the helicopter to a huge ice cave where scientists using hair dryers will slowly and carefully thaw it out.

Bernard Buigues was the leader of this expedition. The research team was headed by a Dutch paleontologist, Dick Mol, and an American paleontologist, Larry Agenbroad, from the University of Arizona.

Scientists are hoping to recover DNA and frozen sperm from this animal, which is thought to have been around 50 years old when it died. There is some hope that a hybrid mammoth and modern-day elephant could be created. The Asian elephant of today has a close genetic makeup and could be used as a mother. Even with today's technology it is doubtful that they can bring this about.

I look forward to the March Discovery Channel's program on this exciting exploration.

*The Strata Data* (Dec., 1999)



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## FIRST WORLD-CLASS DIAMOND MINE IN NORTH AMERICA

On October 14, 1998, seven years after t' initial discovery, the Ekati Mine started diamond production. The mine, located near the Arctic Circle in the Northwest Territories of Canada, is expected to produce \$7 billion in high quality diamonds in the next 25 years, about 5% of the world's production.

The diamond area was discovered in 1991 by a geologist from British Columbia, Charles Fipheke, as he followed the path of Ice Age glaciers northward to the tundra of Canada looking for the source of diamonds that have been sporadically found in the glacial till in Canada and the United States. A second diamond mine is also planned in the vicinity.

From *The Rockcollector*, (Feb., 1999), adapted from a *St. Louis Post Dispatch* article (Oct. 15, 1998)

### 2000 REGIONAL SHOW SCHEDULE

#### EASTERN FEDERATION

September 16-17  
Harrisburg, Pennsylvania

#### CALIFORNIA FEDERATION

August 4-6  
Riverside, California

#### SOUTH CENTRAL FEDERATION

May 5 - 7  
Fort Worth, Texas

#### NORTHWEST FEDERATION

June 23-25  
Monroe, Washington

#### SOUTHEAST FEDERATION

No show scheduled to-date

#### AFMS/ROCKY MOUNTAIN FEDERATION

October 13-15  
Moab, Utah

#### MIDWEST FEDERATION

August 18-20  
St. Louis, Missouri

## THE POETS LOOK AT ROCKS AND MINERALS

by Sam Shapiro

Poets have written about every aspect of the human condition. Homer wrote about war (THE ILIAD), and about adventure and a marital love story (THE ODYSSEY). Shakespeare wrote about an unhappy love affair (the Dark Lady of the SONNETS), and so did William Butler Yeats (many poems about Maud Gonne). Joyce Kilmer wrote a famous poem about TREES, Robert Burns wrote about friendship (FOR OLD LANG SYNE), and Dante Alighieri wrote a long epic poem about Hell, Purgatory, and Heaven (THE DIVINE COMEDY).

And a surprising number of poets have written about the subject matter that interests our Michiana Gem and Mineral Society. Johann Wolfgang von Goethe (1749-1832), for example, wrote the following quatrain about a major igneous rock:

AMERICA DU HAST ES BESSER  
ALS UNSER KONTINENT DER ALT  
DU HAS KEINE VERFALLENER SCHLOSSER  
UNDT KEINE BASALT.

(America you have it better  
Than our old Continent  
You have no ruined castles  
And no BASALT).

(The mineral GOETHITE was named after the poet-mineralogist).

Notable poetry about gemology is found in the first scene of Christopher Marlowe's last play, THE JEW OF MALTA. Marlowe, born in 1564 (the same year as William Shakespeare) lived a brilliant but brief and disorderly life. At 25 he was killed in a duel and jailed on a murder charge; at 29, he was arrested on a charge of atheism; that same month he got into a brawl about a tavern bill, and was stabbed to death. Meanwhile, he had written the first great plays of the Elizabethan theater, from which Shakespeare learned much: "Marlowe's mighty line"

When he wrote THE JEW OF MALTA, Marlowe was, as always, desperately short of money, and he let his imagination run wild with dreams of wealth. The first scene of Act One shows the evil Jew, Barabas, in his counting house, summing up his silver, gold, and precious gems:

So that of thus much, that return was made;  
And of the third part of the Persian ships  
There was the venture summ'd and satisfied.  
As for those Samnites, and the men of Uz,  
That brought my Spanish oils and wines of Greece,  
Here have I purs'd their paltry SILVERlings.  
Fie, what a trouble 'tis to count this trash!  
Well fare the Arabians who so richly pay  
The things they traffic for with wedge of GOLD.  
Whereof a man may easily in a day  
Tell that which may maintain him all his life.  
The needy groom that never fingered groat  
Would make a miracle of his much coin;  
But he whose steel-barr'd coffers are rammed full,  
And all his lifetime hath been tired,  
Wearying his fingers' ends with telling it,  
Would in his age be loath to labour so,  
To sweat himself to death.  
To see me the merchants of the Indian mines  
That trade in metal of the purest mold;

The wealthy Moor that in the eastern rocks  
Without control can pick his riches up,  
And in his house heap PEARL like pebbles stones,  
Receive them free, and sell them by the weight.  
Bags of fiery OPALS, SAPPHIRES, AMETHYSTS,  
JACINTHS, HARD TOPAZ, GRASS-GREEN EMERALDS,  
Beauteous RUBIES, sparkling DIAMONDS,  
And seld-seen costly stones of so great price  
As one of them, indifferently rated,  
And of a carat of this quantity  
May ransom great kings from captivity.  
This is the ware wherein consists my wealth;  
And thus methinks should men of judgement frame  
Their means of traffic from the vulgar trade,  
And as their wealth increases, so inclose  
INFINITE RICHES IN A LITTLE ROOM.

# Try this: Homemade cave columns

This experiment demonstrates how columns of mineral can be formed by mixing baking soda and water.

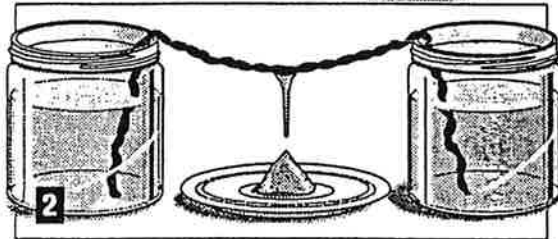
## Make your own stalagmite

### You'll need:

Two glass jars, woolen thread, saucer, baking soda, water.



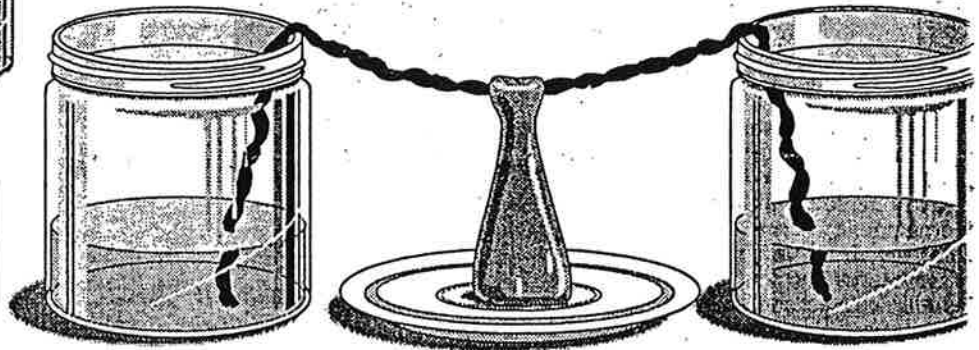
**1** Fill the two jars with very warm water. Dissolve as much baking soda in each one as you can.



**2** Place the two jars in a warm place (not the oven) and put a saucer between them. Twist several strands of woolen thread together. Dip one end of the thread in each jar and let it hang down in the middle. The two solutions should creep along the thread until they reach the middle and then drip onto the saucer.

Stalactites and stalagmites are columns of stone, which form in underground caves. They are made from minerals dissolved in the water that drips slowly from the roof and walls of caves. As it drips, the water evaporates and leaves the dissolved minerals behind.

Stalactites hang down from the roof of a cave; stalagmites grow up from the cave floor.



**3** Leave the jars in place for several days and you will see tiny stalactites and stalagmites forming in the center of the wool. As the water evaporates, a column of crystals forms.

**Why did it happen?** The solution creeps out of the jar along the thread until it reaches the middle and then drips down. As the water evaporates a column of crystals is left behind.

Source: "175 Science Experiments to Amuse and Amaze Your Friends," Random House

## BABES RULE!

A first-grade teacher gave her class the first half of a common proverb and asked them to come up with the rest:

- Better to be safe than.....punch a 5th grader.
- Strike while the..... bug is close.
- It's always darkest before..... Daylight Savings Time.
- Never underestimate the power of..... termites.
- You can lead a horse to water but..... how?
- Don't bite the hand that..... looks dirty.
- No news is ..... impossible.
- A miss is as good as a ..... Mr.
- You can't teach an old dog new..... math.
- If you lie down with dogs, you'll..... stink in the morning.
- Love all, trust..... me.
- The pen is mightier than the..... pigs.
- An idle mind is..... the best way to relax.
- Where there's smoke there's..... pollution.

- Happy the bride who..... gets all the presents.
- A penny saved is..... not much.
- Two's company, three's..... the Musketeers.
- Don't put off till tomorrow what.....you put on to go to bed.
- Laugh and the world laughs with you, cry and..... you have to blow your nose.
- None are so blind as..... Helen Keller.
- Children should be seen and not..... spanked or grounded.
- If at first you don't succeed..... get new batteries.
- You get out of something what you.....see pictured on the box.
- When the blind leadeth the blind ..... get out of the way.



## FOSSIKING FOR FOSSILS

By Cecilia Duluk, MWF Paleontology Chairperson

A mineral collector friend has grumbled that "names of fossils always seem to be changing," and to a certain extent that is true. Classes, and even phyla, of fossils may change as more discoveries are made and more research done, especially on fossil forms that have no corresponding living representative, or whose nature is obscure (think "Tully Monster") because of the limits in preservation. So it is very important to have a recent, complete reference for general classifications.

Of course, there isn't any one such reference, which is why the 1998 MWF Directory has one major reference for each major kingdom: invertebrate animals (*Fossil Invertebrates*, Eds. Boardman, Cheetham); vertebrate animals (*Vertebrate Paleontology*, Benton); and plants (*Paleobotany and the Evolution of Plants*, 2nd Ed., Stewart and Rothwell). However, there are other texts, including newer ones, which disagree with some classifications used in each of these recommended references.

This is especially true where recent studies of large fossil assemblages have revealed new information about some extinct forms. For example, most texts agree that jellyfish, hydrozoans and scyphozoans properly belong in the phylum Cnidaria (which translates as "stinging nettle") rather than being grouped in the much more general term Coelenterata, which simply means "sack-like." However, Boardman till considers conularids as questionable members of the class Scyphozoa, whereas the new *Fossils of Ohio* (Bulletin 70, Feldmann, 1996) creates a whole new phylum--Conulariida--because so many fossil specimens have been found and studied in Ohio's Mississippian rocks which show much more preserved detail that does not match up to any other Cnidaria.

There are several more such cases, some of which we will discuss in future columns. Meanwhile, I have a recommendation: even if you never intend to compete with a fossil display, you should have a copy of the 1995 (1997) *AFMS FOSSIL LIST*, which is based on the three references listed in the second paragraph, but has additions and differences. It will give you an easy reference for formal and common names, and is especially helpful with common names

of all the vertebrates, from birds to whales, which are correlated to modern animals. Send for the *Approved Reference List of Classifications and Common Names for Fossils*, *AFMS FOSSIL LIST* Second Ed. 1995(7), available for \$3.50 plus \$2.60 postage/handling from Eric Peterson, MWF Director of Supplies 18114 L Drive South, Marshall, MI 49068.

## FORGOTTEN LOCALITIES - MINING FOR GUNSIGHTS

by Ron Thacker

Even as we enjoy technological and social progress, there occasionally are victims of change, and one I really miss is *Desert Magazine*. Fortunately, I saved some field trip articles from issues in the early 1950s and they make great reading today. One such is the October, 1950, article by John Hilton describing the calcite locality west of the Salton Sea and north of Truckhaven in Imperial County where he and some friends mined optical calcite.

During World War II one of the most important mining operations in the western hemisphere was in California's Borrego Badlands, where a special type of calcite crystals was found for the making of Polaroid gunsights. John tells of receiving a call from Dr. Harry Berman of the Department of Mineralogy at Harvard and of a subsequent visit, all very top secret. Dr. Land, inventor of the Polaroid process, had discovered that using the calcite in his polarizing microscope with the calcite prisms crossed produced the simplest and most accurate sight devised to that time. So digging in Palm Wash began in earnest, and eventually there was the equivalent of a small town (until the laboratory technicians figured out a synthetic crystal).

In the meantime, the price of calcite shot up to ten dollars per pound. As if this were not irony enough, Ralph and I were sitting in the shade of a big rock eating our lunch one day when I noticed a bush on a nearby hill that seemed to be too green for the spot where it grew. We had learned that this was sometimes an indication of a pocket which could catch and hold a little more water than an ordinary crack in the rock. After lunch I went over and dug up the bush with my prospector's pick. Calcite crystals came out with the roots. By evening Ralph was down

neck deep in a hole, handing out single optical plates that weighed as much as 10 pounds each. That pocket produced more than 1,200 pounds of optical calcite.

Some research needs to be done, and this forgotten locality is on my "to do" list. It is likely that the mine is just inside the park boundary, which means no collecting and probably hiking only. Even so, it would be interesting to visit what is left of the diggings. And maybe, just maybe, deposits exist just outside the boundary?

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## LIGHTNING FUSES SOIL INTO ROCK

By Date M. Gnidovec

I love watching lightning, although it can be frightening when it hits the ground. If a lightning bolt strikes soil or sand, the intense heat creates glassy stringers called fulgurites, after "fulgur," the Latin word for lightning.

Fulgurites also can form if lightning strikes solid rock, such as at the tops of high mountains. The result is a glassy coating or crust called a rock fulgurite. Fulgurites form faster than any other rock on earth, in about one-thousandth of a second. I think of them as petrified lightning.

Most fulgurites are branched hollow tubes with thin walls. They are a few feet to a few tens of feet long and an inch or two wide. Their diameter generally decreases with depth and they may have occasional bulbous or knobby enlargements.

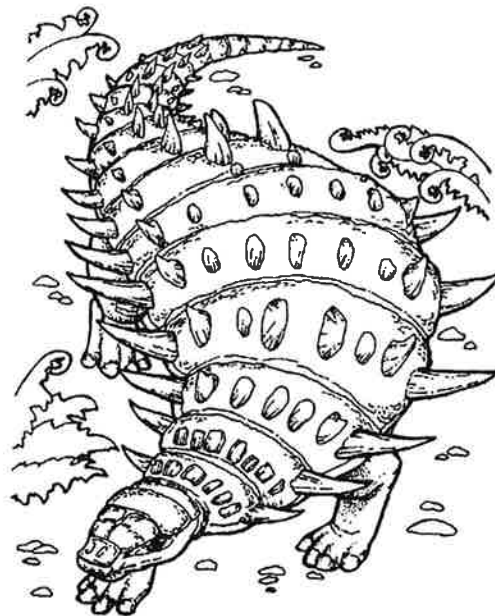
The interiors are glassy, sometimes with a silvery luster, and look as though a glaze had been applied. Blisterlike bubbles may be present, some intact and some exploded, leaving small pits and craters. The inner cavity is usually round or elliptical, but it may have three, four or five corners.

The exteriors are grainy, bumpy or even spiny and may have ridges paralleling the long dimension. Color depends on the original material, but many are gray. Fulgurites may spiral, and if so they always twist to the right.

The quartz grains adhering to the exterior

often have rims of cristobalite, a type of quartz. The change to cristobalite takes place at 2,678 degrees Fahrenheit. Above 3,110 degrees, cristobalite becomes liquid. Rapid cooling of that liquid creates the glassy material of the interior. Fulgurites are thought to form at temperatures of about 3,300 degrees.

The glassy material has been given a mineral name, lechatelierite, after Henri LeChatelier (1850-1936), a French chemist. Most references disallow the name because, by definition, a mineral is supposed to be crystalline, and glass is not.



## WHAT IS THE SIMPLEST GEM? THE MOST COMPLEX?



The diamond (C) is the simplest gem in composition, consisting purely of carbon and crystallized isometrically. Tourmaline (Na,Ca) (Li,Mg,Fe,Al)<sub>3</sub> B<sub>3</sub>Si<sub>6</sub>(O,OH)<sub>31</sub> is the most complex. As John Ruskin said, "The chemistry of tourmaline is more like a medieval doctor's prescription than the making of a respectable material!"

*Rock-Tok* (Sept., 1996)