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# THE BADGER DIGGIN'S

The Badger Lapidary and Geological Society, Inc.  
Monroe, Wisconsin

Devoted to the Earth Sciences

Vol. 45, No. 2

February 2010

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## President's Message

Dear Badgers,

It's been a busy January for a rock club in Wisconsin. I'm happy to report that the auction was a great success, earning over \$1,100 for the club and many members were able to add some excellent and unusual specimens to their collection. I have to say that the event was a lot of fun as well with an abundance of food and wood stove heat. I'd like to thank all those dedicated members that helped prepare for and run the auction as well as a big thank you to Bud & Maggie Higgings and Dave Zimmerman for donating the specimens that made the auction possible.

At the February meeting we will have a number of important activities going on. We'll have the sign-up sheets for volunteering to work at the upcoming Club Show, including setup and tear down. There will also be a sign-up for members that would like to reserve a display case. The show's theme is "Colors of the Earth," which should be a fun and easy theme to plan a display around if you choose to.

Also at the meeting, we'll have the sign-up sheets for the Chicago Field Museum trip on February 27<sup>th</sup>. The plan is to meet in Harvard, Illinois and take the 8:35 a.m. train into Chicago and then two CTA buses to the Museum. The complete trip information for this adventure will be out in an e-mail shortly and available at the next meeting. [Ed. note – It is also reprinted here in the newsletter.]

At the meeting, we'll also have a banner-making activity for the kids. The banners will be displayed at the show to celebrate the 40<sup>th</sup> anniversary of the BLGS Rock, Gem, & Mineral Show. [Our show was to have been visited by the Board of the Midwestern Federation, but those plans have now been changed.] Banner paper, paints, drop clothes, and other art supplies will be available at the meeting. I hope to see lots of kids ready to draw and paint there! Older kids are encouraged to come and help steer the chaos

into something constructive. Painting clothes are strongly encouraged, should that part of the plan fall through. A little chaos goes a long way to keeping life interesting.

Hope to see you in February and have a great day.

*Dan Trocke*

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## Next Meeting

Our next meeting will be held at 9:45 a.m. on Saturday, February 13, 2010, at the Monroe Public Library, 925 16<sup>th</sup> Avenue, Monroe, WI. Take the elevator to the second floor.

**Program: Movie Time; Banner-Making (kids' activity).** Please refer to the President's Message for details of the latter.

**Snacks:** Provided by Chris Konetski.

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## **Tentative Calendar of Club Events – through Oct. 2010**

- Feb. 13** Regular meeting
- Feb. 27** Field Trip – Chicago’s Field Museum  
Leaders: Mary Westby, Dan Trocke  
(see itinerary in this issue)
- Mar. 13** Regular meeting: Fish pond bags (prep.)  
Location: Dan, Laurie Trocke’s farm
- Mar. 27-28** 40<sup>th</sup> Annual Rock, Gem, & Mineral, Show,  
Monroe High School, 1600 26<sup>th</sup> Street.  
Theme: *Colors of the Earth*
- April 10** Regular meeting – Wire-wrapped Jewelry  
Teri Marché, Tyrel Rouse
- April 24** Field Trip – Geode collecting  
Leader: Dan Trocke
- May 8** Regular meeting – “Rock Terms You’ve Never  
Heard Before”: Dan Trocke
- May 22** Field Trip – Bellevue (IA) Agates  
Leader: Tyrel Rouse
- June 12** Annual Picnic: Pleasant View Park (Green Co.)
- June 26** Field trip – Dehnel’s Aegerine Pit  
Leader: Cathy Romeis
- July 10-18** Field Trip – Minnesota to Canada  
Leaders: Teri Marché, Cathy Romeis
- July 25** Field Trip – Rufer Quarry, Monroe  
Leader: Dan Trocke
- Aug. 14** Field Trip – TBA
- Aug. 28-29** Field Trip – Wyalusing & Prairie du Chien  
Leader: Teri Marché
- Sept. 11** Regular meeting – Show & Tell
- Sept. 25** Field Trip – TBA
- Oct. 9** Lapidary Day; Host – Trockes
- Oct. 23** Field Trip – TBA

## MWF Club Events

**Mar. 20-21: Cedar Rapids, IA.** Cedar Valley Rocks & Minerals Society's Annual Gem, Mineral, & Fossil Show. Teamsters Union Hall, 5000 J Street SW. Sat. 8:30-6; Sun. 9:30-5. Contact: Marvin Houg, (319) 364-2868 or [m\\_houg@yahoo.com](mailto:m_houg@yahoo.com).

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## 12<sup>th</sup> Annual PaleoFest, Burpee Museum, March 6-7, 2010

The Burpee Museum will host its 12<sup>th</sup> annual PaleoFest, on Saturday, March 6 and Sunday, March 7. Guest speakers on Saturday include Andrew Milner, Steve Brusatte, Dr. Eva Koppelhus, Dr. Jason Head, and [at the banquet], keynote speaker Dr. Philip Currie. Speakers on Sunday include Ashley Morhardt, Dr. Dan Gebo, Dr. Reed Scherer, and John Catalani, who will discuss "Nautiloids of the Ordovician Sea." In addition, there will be three fossil-themed workshops for families and children. Admission to the Museum is \$6/person, members are admitted free. Tickets to individual talks are \$10/\$9 members; one- and two-day passes are available. For more information, visit <http://www.burpee.org/PaleoFest2010.asp>. The Museum is located at 737 North Main Street, Rockford, Illinois.

## Meeting Minutes

The January meeting was held on the 9<sup>th</sup> at the Monroe Public Library. We had a very nice turnout. Those members that attended the meeting were: Dan & Laurie Trocke and kids, Tyrel Rouse, Neal Trickel, Wil Ward, Marv Hanner, Ted Tinker, Jody Rymaszewski, Cathy Romeis, Ken Schweitzer, Linda Neill, Chris Konetski, Teri & Jordan Marché, Donna & Dave Reese, Ralph Burgener, Jack & Kim Hoxie and kids, Brian & Cindy Green, Erich Hessner, Mary, Dennis & Jimmy Westby, and Clay Schroll. The program for this meeting was a mini-auction featuring specimens from the Bud Higgins and Dave Zimmerman collections. Bidding on the auction items was open for 15 minutes before the meeting and 15 minutes after the meeting.

The meeting was called to order at 10:30 a.m. and started with a very nice presentation of photographs

from previous field trips by a new member, Jody Rymaszewski, from Milwaukee. The pictures were from a trip that the Wisconsin Geological Society took to Cave of the Mounds which Jordan Marché guided. There were also some lovely pictures from a state park that is west of the quarry that we went to in Utica. These featured waterfalls in St. Louis Canyon and LaSalle Canyon in Starved Rock State Park.

After the Jody's presentation, we moved into the meeting. Jack Hoxie moved to approve the December meeting minutes, w/a second from Teri Marché. The minutes were approved as printed. Dan then gave several announcements. He explained how the mini auction would run at this meeting. He also said that there would be a much larger auction at the Trocke's house on January 23<sup>rd</sup>. It will start at 11:00 a.m. and be held in the barn. We will have a wood stove running in the barn, but it is January in Wisconsin, so dress accordingly! The Trocke's will provide drinks and sloppy joes, but if anyone would like to bring a side dish to share, that would be appreciated. The March meeting will also be held at the Trocke's. The library room was unavailable and we will be putting together the fish pond bags for the show and the space in the barn should work well for that.

The club officers had held a planning meeting on Friday, January 8<sup>th</sup> and put together a schedule for the coming year. Teri went through the schedule and it will be printed in the newsletter.

The first door prize was won by Cathy Romeis. It was a beautiful little amethyst from Las Vegas, Mexico.

We then moved on to *Old Business*. Ted Tinker has a working web site!! He does not have it on-line yet and is still adding to it, but he brought his laptop along and gave a demonstration. He asked for suggestions of search words to add to the site so that it would be found when someone does an on-line search. Dan suggested that we create a Website Chair position. Jack Hoxie made a motion to create this position and to have Ted be the first to fill it. Teri Marché seconded the motion and it carried unanimously.

[Cont. on next page.]

In other old business, the Westbys are finishing the bookmarks and will get some to Jack Hoxie to give out at other shows as soon as possible.

Next on the agenda, was *New Business*. Teri said that quite a few clubs are disappearing, due to lack of participation. She said that too often, a few members of the club do the majority of the work. She suggested that we split up some of the duties so that more people could be involved. Thanks to everyone who volunteered!! The Westby's offered to take the picnic basket and are also in charge of the fish pond and the kids games at the show. The Hoxies offered to help with advertising. The Greens took over the What's Rockin' Table and Cathy and Nancy offered to help organize field trips. YEAH!

In other new business, Daisy Peterson explained that she had a metal detector that her family wasn't using and she wondered if the club would be interested in purchasing it. She said that it worked well and that she wanted \$100 for it. Neal Trickel made a motion that we buy Daisy's and see how much use the club gets out of it before we look into getting a more expensive, higher end one. Mary Westby seconded the motion and it carried. The Westbys currently have the metal detector. If you would like to try it next, please contact them.

Ted Tinker won the second door prize. It was a beautiful green pyromorphite crystal.

Daisy then gave the *Treasurer's Report*. She said that they are in the process of shutting down our current checking account and opening a new one at First National Bank in Monroe. The previous bank had closed its Monroe branch and the closest ones would be in Madison or Rockford. Donna Reese deposited a check at First National to start the account and will close the other account as soon as any outstanding checks are in. Daisy asked that if you have any checks, to please deposit them ASAP so that the account can be closed. The club is only opening a checking account at the new bank, not a savings account.

For *Show Business*, Teri explained that the sales table will be for members only. She would like people to sign up in advance and she would also like to color code the sales slips so that they are easier to sort. She said that anyone selling at the

sales table needs to help with set up and tear down at the show.

The 3<sup>rd</sup> door prize was won by Teri Marché. It was a very nice ammonite.

The meeting adjourned at 12:00.

The silent auction wrapped up shortly after the meeting and some club members left with some very nice treasures.

Respectfully submitted,

*Laurie Trocke*

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### **What's Rockin'**

We had a full table this month with lots of very nice specimens. More than one person expressed the desire to move the silent auction to the What's Rockin' Table. Ted Tinker brought several different varieties of agates, candy geodes, birdseye rhyolite (peanut rock), and optical quartz. The Trockes displayed purpurite, orange heulandite, meerschaum, chrysocolla, orpiment, and iridescent fluorite. Marv Hanner brought phenakite, mimetite, petalite-crystal, babingtonite, and elbaite with apatite. Jack Hoxie showed off a marcasite cast, amazonite, and some float copper. The Marchés brought some nice specimens of different agates, sodalite, hickoryite, and a piece made up of tourmaline, garnet, kyanite, feldspar and emerald. Clay Schroll brought in a geode with calcite crystals that he found on a beach. Neal Trickel had some Indian artifacts from South Dakota and Erich Hessner brought some mohawkite from the Mohawk Mine in Michigan.

*Brian Green*

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### **Field Trip to Chicago's Field Museum, Saturday, February 27, 2010**

*Attraction – Diamond Show (and so much more!)*

Travel information from Mary Westby, co-leader.

To get there, we will use three types of transportation – car, train, and buses.

You must first drive to the METRA train station at Harvard, Illinois. From there, we take the Union Pacific/Northwest (UP/NW) line into Chicago. From there, we must take two different buses to get to the Museum Campus.

**Prices: Train** – From Harvard to Chicago, the price is: \$5.00 R/T for adults; \$2.50 R/T for kids 12-17. Kids 11 and under ride free with a paying adult, for up to 3 kids per adult.

**Prices: Buses** – From the train to the Museum, the price is: \$5.75 for adults, but you must buy a one-day Fun Pass for unlimited rides; otherwise, it is \$10.00 R/T on bus. Can buy Fun Passes online at ([www.Transitchicago.com](http://www.Transitchicago.com)). Kids 6 & under ride free; kids 7-11 \$4.00 R/T. KIDS 12 AND OVER NEED A FUN PASS.

#### **Total Transportation Expenses:**

HARVARD, IL TO FIELD MUSEUM:  
**ADULT** (COST IS \$10.75 TRAIN & BUS R/T)

TRAIN & BUS **KIDS** (12 TO 17 \$8.25 R/T)

TRAIN & BUS **KIDS** (7 TO 11 \$4.00 R/T)

TRAIN **KIDS** (11 & UNDER FREE); BUS **KIDS** (6 & UNDER FREE)

#### **Transportation Schedule: GOING**

HARVARD, IL: UP/NW Train # 710, DEPARTS AT 8:35 a.m.; ARRIVES IN CHICAGO (Ogilvie Transportation Center) at 10:23 a.m.

CTA BUS #20 (MADISON EASTBOUND), DEPARTS AT 10:31 a.m., ARRIVES at Washington & State Sts., 10:36 a.m.;

CTA BUS #146 (INNER DRIVE/MICHIGAN EXPRESS SOUTHBOUND), DEPARTS at 10:37 a.m., ARRIVES at Museum (Roosevelt & Columbus Sts.), 10:50 a.m.

#### **Transportation Schedule: RETURNING**

CTA BUS #146 (INNER DRIVE/ MICHIGAN EXPRESS NORTHBOUND), DEPARTS at 5:13 p.m., ARRIVES at Madison & State Sts., 5:35 p.m.

CTA BUS #20 (MADISON WESTBOUND), DEPARTS at 5:41 p.m., ARRIVES at Ogilvie Transportation Center, Madison & Clinton Sts., 5:47 p.m.

CHICAGO, IL: UP/NW TRAIN # 719 (MET OUTBOUND), DEPARTS at 6:30 p.m.; ARRIVES IN HARVARD, IL (METRA Station), at 8:20 p.m.

A sign-up sheet will be available at the meeting for those wishing to participate on this fieldtrip.

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#### **Crystal Wood – Brilliant, Alabama**

by David Reese

Brilliant, Alabama is in the northwestern quarter of the state, just north of U.S. Highway 78, about halfway between Birmingham and Tupelo, Mississippi. The website [mindat.com](http://mindat.com) lists Brilliant as a location where petrified wood can found in the United States.

However, it is unlike petrified wood from the western states in that it is not completely replaced by silica. Stony pieces of mineralized wood covered with druzy quartz or calcite crystals are found here, or else strands of small crystals, intertwined with the remnant wood fibers. The former is sometimes call “fairy wood,” while the later, “crystal wood,” and is the type that I won at the Christmas party. Sometimes, the wood fibers are completely gone and only the crystal lattice remains. Clear, white, and smoky crystals occur.

Both the wood and the soil structure in that area are of dinosaur age. Shovel work is the preferred recovery method. Pieces of crystal wood maybe seen on e-Bay, or you can find “crystal wood” at <http://mcrock.com/ft06-2/StreeterNovember06.html>.

## Banded Wonders

by Teri Marché

I just polished up some stones and pebbles of red and black “banded iron” that I found along the Mississippi River at Prairie du Chien. While it is quite attractive, and takes a decent polish, this material speaks of momentous events in the evolution of our planet. For starters, they did not originate in southern Wisconsin. Instead, they were transported south by the same glaciers that also brought us the Lake Superior agates. However, their story is far older and stranger than that.

In 1953, University of Wisconsin geologist Stanley Tyler was exploring for iron deposits in northern Minnesota and Ontario, Canada. He collected material from the Gunflint Chert Formation in Ontario, near Thunder Bay. Later, he examined thin sections of the rock and discovered minute spheres and stars, along with branched and unbranched filaments. Working with Harvard paleobotanist Elso Barghoorn, he determined that they were indeed fossils, the oldest on the planet.

The early Earth sported an atmosphere particularly rich in carbon dioxide but extremely low in free oxygen (under 1%), and with the oceans possibly warmer overall, containing large amounts of dissolved iron. Some 3,500 million years ago, single-celled prokaryotes, simple cells with no nucleus or organelles, were the primary, and possibly only, form of life. Originally referred to as blue-green algae, they are now considered cyanobacteria. These bacteria formed dense mats that, like stromatolites, lived either at the water’s surface, or in very shallow water. This was the state of life on this planet for the next 2,500 million years (Nudds & Selden, 2008).

According to the theory proposed by geologist Preston Cloud in 1965, some of these early bacteria were capable of photosynthesis, converting sunlight and carbon dioxide into nourishment and giving off oxygen. A highly reactive element, the oxygen combined with iron in the sea and precipitated out, forming iron-rich layers that periodically smothered the bacterial mats. The bacteria grew until smothered again in a process continuing over many millions of years, until all of the iron in the seawater was depleted. At that point free, oxygen began to build up in the atmosphere, eventually reaching levels poisonous to

the very organisms that produced it. In the approximately two billion years since that time, life on Earth has had to adapt to an atmosphere containing about 20% oxygen, its current level. Thus, the conditions that produced the banded iron have never again existed on earth, and formation of this material long ago ceased forever. However, it was this atmospheric change that permitted the development of multicellular life, including us!

This theory was accepted for many years. However, an item in the Jan.-Feb. 2010 issue of *Discover* magazine caught my eye with a photo of banded iron. It seems that geomicrobiologist Kurt Konhauser of the University of Alberta, Canada, has proposed a refinement of the theory. Analyzing banded iron from formations found worldwide, he discovered a dramatic drop (about 50%), not in iron, but in oceanic *nickel* levels that occurred between 2.7 and 2.5 billion years ago. This “nickel famine,” according to Konhauser, coincided with cooling of the Earth’s mantle, resulting in decreased volcanic activity and reduced amounts of nickel-rich lavas coming to the surface. In this scenario, the earliest bacteria were primarily marine methane-producers (methanogens) that needed nickel to function. After the methanogens declined around 2.5 billion years ago, newer, oxygen-producing, photosynthetic bacteria came to dominate, which first created the banded iron formations (largely ending around 2.0 billion years ago) that later flooded the atmosphere with free oxygen, permitting the development of multicellular life, including us!

Either way, the story is wonderful, since it leads to us being able to enjoy the beauty of polished, red-and-black banded iron on the beaches of western Wisconsin.

An extra note – for those planning to join this year’s club trip to Minnesota and Thunder Bay, Canada, exposures of the Gunflint Chert (co-named by U.W.–Madison geologist and president Charles R. Van Hise, of eponymous “Rock” fame) will be close by and available for viewing.

### References:

Jacquot, Jeremy (2009). “Oxygen’s Odd Origin.” *Discover Magazine, Special Issue: Top 100 Stories of 2009*, Item 91, January-February 2010.

Nudds, John R. & Selden, Paul A. (2008). *Fossil Ecosystems of North America*. Chicago: University of Chicago Press.



*Polished banded iron pieces; photo by Teri Marché*

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### **From The Show Chair**

by Teri Marché

This year I will be able to fulfill a long-held wish: Jordan and I will be able to go to Tucson for the giant Gem and Mineral Show. However, it falls at a relatively bad time; I will miss the February meeting (on the 13<sup>th</sup>). That matters because there will be much show business to complete.

### **Exhibits**

There will be a showcase sign-up sheet at the February meeting. I encourage everyone to fill at least one showcase, whether it is the 22 in. by 22 in. or the 2 ft. by 4 ft cases. You *can* take more than one! The smaller dimension cases are not as high as the larger ones, which also have a glass shelf for display. The show theme is *Colors of the Earth*; consider that an invitation (not a requirement) to put out your favorite “pretties.” However, if you commit to fill a showcase, *puh-leeze* follow through! Empty spaces and showcases will not reflect well on our group, and I will be too far from home to run back for materials to fill cases left empty, as Dave often did.

Put some care and planning into your display:

1. Remember to bring a cloth to cover the bottom of the case. Think about contrasting colors that will show off your specimens, and consider textures that will enhance the display.

2. Print out neat labels that can easily be read, identifying the specimens, their origins, and

any other pertinent information. Mounting them on card stock is even better.

3. Give your display a title, also neatly printed.

4. Don't forget your name. Take credit for your great display!

5. Add any additional photos or book pages, but be careful to avoid clutter that will detract from the presentation.

### **Work List**

There are several important jobs at the show that need to be filled. I will send a sign-up sheet for each day of the show. It will include:

1. The Admission Table is important. Here you greet visitors, have them sign the guest list, hand out door prize tickets and activity tickets for the kids. You answer questions and point out the donation jar.

2. Fish Pond, Spinner Game, and Quarry – volunteers take tickets or money and direct the kids in each activity.

3. Club Sales Table – Sell and package items placed for sale by club members. You may have some company from those working at the Membership Table.

4. Membership Table – Answer questions about the club and the show, hand out information about us and our activities, oversee the kids' rock identification board.

5. Set-up and tear-down – Even if everyone who is selling at the Sales Table signs up for this, we still can use every additional hand! Some jobs require heavy lifting and moving. Some are light work instead. There will be work for everyone who shows up!

### **Posters/Flyers:**

I will have long and short posters for members to take and plaster every town in the area! OK, maybe not totally, but you get the idea.

Show weekend has always been a fun time, in part because we get to see lots of wonderful stuff, but more because of the time spent working together, socializing, and spending time with each other over an extended period. Yes, it is the rocks, but it is also the people, who make this weekend fun. I'll do all I can to make it a pleasure for everyone!

Badger Lapidary and Geological Society, Inc.  
Jordan Marché, Editor  
5415 Lost Woods Court  
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### Cookie Recipe

by Erich Hessner

It was suggested that I submit my Grandma's cookie recipe for inclusion in the newsletter. These were the large soft cookies at Dan's BLGS auction. The recipe follows.

2 3/4 cups flour  
1 tsp baking powder

1 cup sour cream  
1/4 tsp baking soda

1 cup butter (room temperature)  
1 cup sugar

1 egg  
1/2 tsp salt  
1 tsp vanilla

Mix and sift together flour and baking powder.

Cream the butter and sugar together with a fork, then blend in the egg, salt and vanilla.

Mix the baking soda into the sour cream, then blend into the butter/sugar mixture.

Mix the wet into the dry ingredients, combine thoroughly but do not overwork.

Chill dough for two hours.

Roll out on a well floured surface and cut out shapes with cookie cutters.

Cook on ungreased cookie sheet at 375 for 9 minutes.

Let cool before frosting:

4 oz butter - room temperature  
4 oz cream cheese - room temperature  
2 cups powdered sugar  
1 tsp vanilla

Beat together butter and cream cheese.

Add sugar a cup at a time at low speed then blend in vanilla.

You may thin the frosting with milk.