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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. 9

November 2010

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## President's Message

Dear Badgers,

I hope everyone has had a very happy Halloween and is ready for winter. There will be no field trip in November because of Thanksgiving, but we'll meet as usual at the Monroe Library at 9:45 a.m. on November 13<sup>th</sup> for a couple of special presentations, before many of us head down to the Freeport Show.

Next month, we have the Badger Christmas party to look forward to on December 11<sup>th</sup>, where we will be electing officers for 2011. Thus, anyone interested in supporting the club and volunteering to run for an officer position should please let me know in the next couple of weeks. The 2011 officers will then meet in January to start planning next year's field trips and meeting activities. So, if anyone would like to sit in on this meeting, you are most welcome to attend; or if you have ideas for next year then please pass them on to me. The Badger club has a long tradition of members pitching in to help organize our wonderful fieldtrips and thus we need everyone's help and interest to continue.

With kind regards,

*Dan Trocke*

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BLGS members at Lapidary Day, 2010 (photo - Wil Ward).

## Next Meeting

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

## Two Programs:

- (1) Martha Miss, of Rock Biz, Inc., presents, "DOGgone: Safety's Important," a humorous and entertaining look at field trip safety. This program has received honors from both the MWF and AFMS.
- (2) Teri Marché will give a slide presentation about the 2010 Tucson Gem and Mineral Show. Come take a look at this world-class rock show.

In addition, Ted Tinker has gotten permission to conduct a small silent auction, to distribute a number of agate specimens that he has recently acquired from other collections.

After the business meeting, there will be an optional trip to the Freeport Show.

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**Officer Roster (2010):**

**President, Field Trip Chair**

Dan Trocke  
4771 County II  
Highland, WI 53543  
608-935-0597  
dtrocke@acscm.com

**Vice-President**

Mary Westby  
503 East Fulton Street  
Edgerton, WI 53534  
608-884-3968  
waylonsmom@hotmail.com

**Secretary**

Laurie Trocke  
4771 County II  
Highland, WI 53543  
608-935-0597  
glowyrocks@gmail.com

**Treasurer**

Donna Reese  
6388 Nimitz Road  
Loves Park, IL 61111  
815-885-1410  
reesedlr123@aol.com

**Editor**

Jordan Marché  
5415 Lost Woods Court  
Oregon, WI 53575  
608-835-2653  
jdmarcheii@gmail.com

**Show Chairperson**

Teri Marché  
5415 Lost Woods Court  
Oregon, WI 53575  
608-835-2653  
tmarche@education.wisc.edu

**Officer at Large**

Tyrel Rouse  
234 Randolph Drive, #114  
Madison, WI 53717  
608-235-2865  
karmacop\_7@hotmail.com

**Tentative Calendar of Club Events – through Dec. 2010**

**Nov. 13 Regular meeting; trip to Freeport Show**

**Dec. 11 Christmas party**

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**Remembrances**

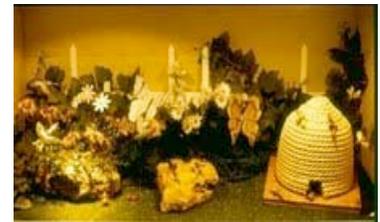
by Wil Ward

Gertrude Picket passed away several months ago. She was 97 years old. If I remember right, she was a charter member of the club. She was the bulletin editor for a number of years. Always entered the MWF bulletin contest and was quite proud of our little bulletin. She didn't really have a special interest in the hobby. Just enjoyed getting out in nature and taking in the fresh air. In later years, she was quite a hiker (Switzerland, New Zealand, and the U.S.). Her creed for living was: Yesterday has passed, don't worry about tomorrow, and concentrate on enjoying today." I saw her last about two years ago in the nursing home. She was about 95 then and was pushing some *other* lady in a wheelchair down the hall. That was Gert Pickett.

June Windsor's primary interest was in lapidary, although her husband Jim did the actual work. They always had a wonderful display case at the show. She was the arranger as Jim turned out butterflies, bees, ants, and flowers. They did separate in later years. June moved to northern Wisconsin and Jim back to Arizona where he grew up. That ended the wonderful displays and Jim's stories of scorpions and rattlesnakes. In the early years of the show, the ladies of the club ran the kitchen and June was a tour de force in that area. [Photos below reproduced courtesy of Wil Ward.]



Gertrude Pickett



June Windsor display



Jim Windsor display

## MWF (& related) Club Events

**November 13-14: Freeport, IL.** North West Illinois Rock Club's Holiday Jewelry, Gem & Mineral Show. Highland Community College Student/Conference Center, 2998 West Pearl City Road. Sat. 9-5, Sun. 10-4. Contact: Brian Green, [bgreen57@hotmail.com](mailto:bgreen57@hotmail.com).

**November 20-21: Madison, WI.** Madison Gem & Mineral Club's "Rockin' Madison 50 Years" Show. Alliant Energy Center, 1919 Alliant Energy Center Way. Sat. 9:30-5, Sun. 10-5. Adults – \$3; children – free. Contact: Nevin Franke, (608) 251-2601, or [burniesrockshop@gmail.com](mailto:burniesrockshop@gmail.com).

**December 11-12: Sheboygan Falls, WI.** Glacial Drifters Geologic Society's Sixth Annual Rock, Gem, Mineral, and Fossil Show. Sheboygan Falls Municipal Building, 375 Buffalo Street. Sat. 10-5; Sun. 10-4. Contact: Kevin Ponzio, (920) 980-6413.

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## Two Awards Received in 2010 MWF Bulletin Editor's Contest

by Jordan Marché

At the MWF Show in Peoria, Illinois, winners of the 2010 Bulletin Editor's Contest were announced. *The Badger Diggin's* was one of thirteen bulletins entered into the contest by their participating clubs. And we received two separate awards, including a top honors in one category.

Teri Marché received the First Place award in the Advanced Adult Articles category, for her account, "What is a Hypostome?", published in the June, 2009 issue. In addition to the text, Teri also provided four original pencil illustrations of these lower feeding appendages of extinct trilobites. Congratulations, Teri!

*The Badger Diggin's* itself was entered into the Small Bulletins category, and received a Sixth Place award.

Details of the contest were published in the October, 2010 issue of the *MWF News*, in the article, "Bulletin Editor's Competition Winners," by contest chairperson Celia Tiffany.

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## Collecting on a Silurian Reef

written & illustrated by Teri Marché

### *The Geology of Door County*

To folks in Wisconsin, Door County is a very special place. Sitting at the tip of the "thumb" on Wisconsin's "mitten," the area offers a rural getaway, with picturesque villages, farms and orchards, craft and antique shops, and a beautiful shoreline of rocky cliffs and sandy beaches. That certainly described my idea of Door County until this past September, when I got to see it anew, through the eyes of a rockhound.

The major geologic feature of Door County is the Niagara Escarpment, which forms the cliffs on the western side of the peninsula. Made of very hard, dolomitized limestone, this escarpment is the edge of a "bowl" of rock that surrounds the Michigan Basin, and today contains the entire lower peninsula of Michigan, including Lake Michigan. The rim of the bowl extends through the southeast Wisconsin lakeshore, beyond Chicago, and into Indiana on the south. To the north it crosses parts of Ontario, Canada, and into New York State (Figure 1). There it provides the foundation for the Falls of the Niagara River, from which the formation gets its name (Shultz, 1995; Dott & Attig, 2004).

This formation, called the Niagara Cuesta, formed some 425 million years ago, when the basin was filled with the waters of a tropical Silurian sea. This was the period when reef-building stony corals came into their own in the warm, shallow waters that bordered the sea. Although numerous reef sites are known in the Racine and Milwaukee areas, where the water was a bit deeper, Dott & Attig (2004) claim that the Door County area was too shallow for much more than algal mats and stromatolites (domed structures formed by layers of algae). However, Paull & Paull (1977) locate two reef sites in the county, one near Sturgeon Bay and one at the very tip of the peninsula.

The Sturgeon Bay site designation is almost certainly due to discoveries made in what is now Old Stone Quarry County Park. A visit there several years ago yielded a few coral fossils. However, our September field trip this year points to a much more extensive reef system north of the Sturgeon Bay area.

### ***About Fencerows***

Door County has been compared to New England (Paull & Paull, 1977), and in some geological respects, the comparison is apt. Like New England, Door County was subjected to glaciation, which stripped off soils to a large degree. In both areas, farming poses problems. Plowing a field involves moving rocks, and more come to the surface every year. In both areas, farmers managed the problem the same way, by dumping and piling unwanted rocks along the fences bordering their fields. Eventually the fences were completely buried in fencerows that reached 6 to 8 feet high and equally wide.

Those fencerows today provide fossil hunters with some of the easiest collecting possible. With permission from the farmer, one can simply settle on top of the pile and look at the rocks. If the rock is a fossil you like, pop it into your bucket; if it is not, toss it to one side. No tools are needed unless you wish to trim a fossil.

The rocks on the surface are generally weathered and covered with moss or lichen. However, dig into the pile a bit, and they are nice and clean. Moreover, they have been protected from further damage. The fossils are silicified, and a century or more of acidic rains percolating through the piles have eaten away at the limestone matrix and exposed the fossils even more than before.

### ***The Sites and Fossils***

We visited just two farms that day in September, and it soon became apparent that the fencerows differed in accessibility, construction, and fossils. At the first site, the fencerow was so overgrown with trees and brush that it was invisible from the road. However, a short trek through the bushes, and it was easy to reach. The pile had been built rather haphazardly, and about 60% of the rocks I dug through were fossiliferous. These were mostly *Favosites*, or Honeycomb corals (Figure 2), named for the hexagonal shape of the individual corallite tubes. There were two possible species: the larger-celled *Favosites favosis*, and the smaller-celled *Favosites niagarensis* (Shimer & Schrock, 1980, pp. 105-107). *Favosites* forms very thick to quite thin plates, with the individual corallite tubes tightly cemented together, as in a honeycomb.

Other, less common corals included a single cluster of *Syringopora retiformis*, or Organ Pipe coral (Figure 3). While some of these corals have

very straight, parallel, round corallite tubes, *S. retiformis* tends to be crooked and somewhat branched. However, in every case, the tubes are only lightly connected to those to each side (Shimer & Schrock, 1980, p. 115).

Another species, *Arachnophyllum pentagonum* (Shimer & Schrock, 1980, p. 101), was represented at the first site by just a few, poorly preserved examples. It is named for the irregular pentagonal shape of the corallite tubes, which are fit tightly to each neighboring tube (Figure 4). Unlike the Honeycomb corals, the upper surface of each corallite is concave, with radiating striations from a raised center. Shimer & Schrock (1980) list two other species in this genus from the Niagaran Silurian formations.

Also present at our first collecting site was a massive, layered fossil that was definitely colonial, but also definitely not coral. Termed a stromatopod, its exact nature is still under debate but is likely related to the sponges (Porifera). It has a definite texture, unlike stromatolites, although the layering is reminiscent of that family. The particular species collected that day was *Clathrodiction vesiculosum* (Figure 5) (Shimer & Schrock, 1980, p. 59).

In a very few hours, we had a cartload of fossils, and after a tailgate lunch (this IS Wisconsin, after all!), we were off to spend the afternoon a bit further north. The second site was relatively clear of brush, easily seen from a distance, and accessed across a newly harvested field.

The rock here was more uniform in shape, being primarily flat slabs, and as a result, the fencerow was more carefully constructed. The lower three feet were built with the slabs evenly laid, flat and even along the sides. Still, the old wooden fenceposts were occasionally visible, and barbed wire sometimes made an appearance. The upper portions of the row were more haphazardly piled.

The main coral here was *Halysites*, or Chain coral. An infrequent find at the first site, here it was everywhere. It is fairly unique in that each corallite tube is connected to just two others, one on each side (Figure 6). They thus form long meandering rows, or chains, with large to narrow spaces between. Although Shimer and Schrock (1980) list five different *Halysites* species from this period, our collection was composed entirely of *Halysites catenularia* (p. 113).

A really unique find at this site was one specimen of a branching coral, *Coenites laqueata* (Shimer & Shrock, 1980, p. 111). Initially visible as a few clusters around a small *Halysites*, later work at cleaning revealed a whole plate of lacy, interlocking branches (Figure 7). Unlike the tabular, horizontal plate corals, this probably would have had a more vertical habit. Even the *Halysites* chain corals formed in thick to thin tabular plates.

Horn corals were found infrequently at both sites, possibly an *Enterolasma* species. Besides the corals, both sites produced the brachiopod, *Pentamerus oblongus* (Shimer & Shrock, 1980, p. 305), and the second site yielded a *Dolerorthis flabellites* brachiopod (p. 297). A few poorly preserved planispiral gastropods were also found, but identification is almost impossible. Crinoid stem segments and disarticulated discs are scattered throughout, but rather infrequently.

### ***Finally, A Word on Cleaning***

Cleaning these fossils involved some knowledge of chemistry. After a dry scrubbing to remove moss and a rinse to take off loose dirt, a soak in liquid bleach took off all the remaining organic material, including green algae stains. Because the fossils are replaced with silica, on a calcium-based limestone matrix, soaking in muriatic acid further exposed the fossils by eating away the calcium. This left behind some delicate specimens that were then reinforced with a coating of “waterglass,” a.k.a. sodium silicate. Only specimens on matrix received this full treatment, especially the chain corals. Many of the honeycomb corals were solid coral with no matrix.

There are many more farms and fencerows on the Door County Peninsula, and I am hoping to return again to sample more of this great Niagaran reef. Perhaps I’ll find other sites that concentrate different corals. I would love to find some better examples of *Arachnophyllum pentagonum* as well as some different organ pipe corals. No matter what is found, I look forward to another day of sitting in the sun, watching the geese fly over while tossing rocks into the bucket, and enjoying the good company of fellow rockhounds.

### **References**

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Schultz, G. (1995). The Silurian Sea. In F. M. Langlois & B. B. Njaa, When Door County, Wisconsin was a Silurian Sea. Fish Creek, WI: Door County Environmental Council, Inc.  
Shimer, H. W. and Shrock, R. R. (1980). Index Fossils of North America. Cambridge, MA: The M. I. T. Press.

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### **The Blue Stuff**

by Dave Reese

“What’s that blue stuff, Grampa?”, asked the youngster. He was on tiptoes, peering into a display of minerals belonging to Kevin Ponzio at the Badger Rock Club’s annual show in Monroe.

“That is a copper mineral called azurite,” was the reply.

“Why’s it blue?”

“It didn’t start out blue. When it meets air, it oxidizes, which turns it blue.”

“What’s it good for?”

“It has lots of uses. Centuries ago, it was used as the blue pigment in artists’ paint. They later found that exposure to heat and light could alter the blue to green.”

“Did you see it?”

“I’m not that old.”

“If I watch this one long enough, will it turn green?”

“It takes quite a while.” [sometime later . . .]

“Last night, when Gramma stomped her foot, and pointed a finger at you and said, ‘things are going to change around here’, what are you going to change to?”

“. . . Well, if I’m a great blue azurite, seal me up and put me in a cool dark place and I’ll last a good long time.”

“There’s Gramma over there, looking at some jewelry. Can I go help her pick something out?”

“You bet your azurite you can.”

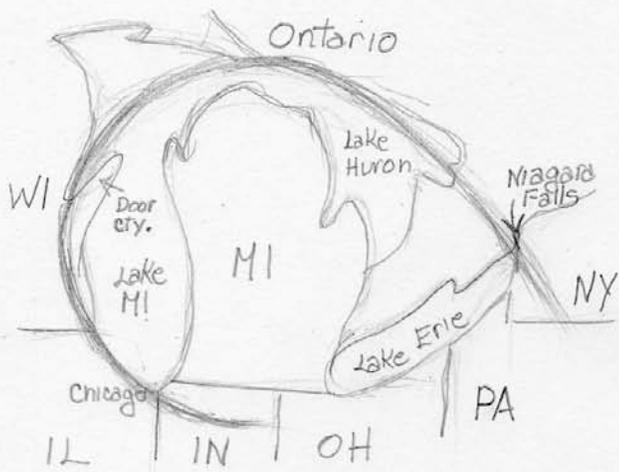


Fig. 1 Niagara Escarpment



Fig. 3 Organ Pipe Coral

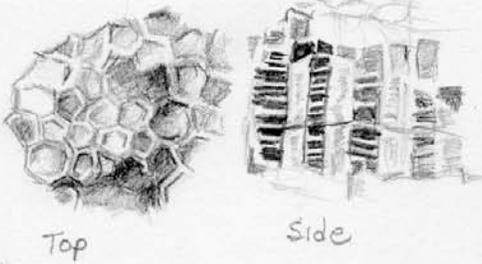


Fig. 2 Honeycomb Coral

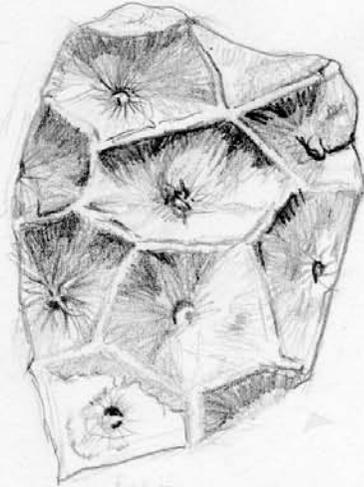


Fig. 4 Pentagonal Coral



Fig. 5 Stromatoporida



Fig. 6 Chain Coral

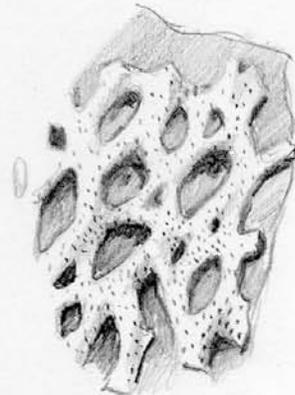
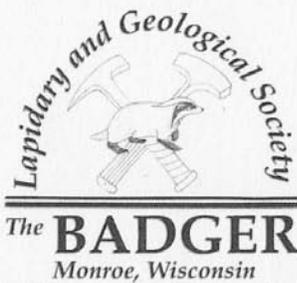


Fig. 7 Branching Coral

Badger Lapidary and Geological Society, Inc.  
Jordan Marché, Editor  
5415 Lost Woods Court  
Oregon, WI 53575



## The 41<sup>st</sup> Annual **Rock, Gem & Mineral Show**



**March 26 & 27, 2011**

*9:00 am to 5:00 pm – Saturday and Sunday*

**Monroe High School – 1600 26<sup>th</sup> Street, Monroe, WI**

Admission: Free Will Donation, Free Parking

*An Affordable, Educational, Family-Friendly Event*



**This Year's Theme – Rocks At Work**



***Quality Dealers: Gems, Minerals, Fossils, Crystals, and Jewelry***

***Children's Activities: Fish Pond, Scavenger Hunt, Roaming Rock Wizard, Gemstone Panning***

***Other Goodies: Quality Member Displays, Fluorescent Display, Door Prizes, Demonstrations***

***Great Speakers, Good Food***

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**Presented by the Badger Lapidary and Geological Society**

A Non-profit organization dedicated to promotion of earth science study for children, adults, and families.

MEMBER OF THE AMERICAN FEDERATION AND MIDWEST FEDERATION OF MINERALOGICAL AND GEOLOGICAL SOCIETIES

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For More Information, Contact Teri Marché 608.835.2653, Email [tmarche@education.wisc.edu](mailto:tmarche@education.wisc.edu)