
THE BADGER DIGGIN'S

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

Devoted to the Earth Sciences

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President's Message

Dear Badgers,

A few weeks ago many hearty club members, following the lure of fluorite, braved the long drive, soggy weather, fierce mosquitoes, and even the sighting of a 3-foot long copperhead snake by Jack Hoxie to participate in the Cave-In-Rock field trip. As a whole, the collecting seemed good, the rain arguably kept the heat away, and the ticks, chiggers, and poison ivy left us alone more than usual. Last year, several of us found a blue fluorite jackpot at the Annabel Lee Mine tailing piles. But this year, it was Ralph Burgener's turn to bring home a giant bucket of blue. The Eureka Mine dig, organized through the Clement Museum, was scattered with plenty of small dark purple cubes and little clusters washing out of the clay piles. This was a nice surprise and was largely due to the previous excavation work organized by MAGMA (that also produced the big, slippery, sticky clay mud hole). I did try the mud hole myself, but it was Johnny Fay and later Kim Hoxie who made digging in the mud look like fun. So much so that once again Jayden Trocke (ahhh ... no relation) managed to get thoroughly stuck in the mud and had to be bodily hauled out. I hope that everyone coming to the Club Picnic this year will bring your best specimens from the trip to show.

As we have a number of important dates coming up, I thought I should use the newsletter to get the word out about each.

The Badger Club Picnic is on Saturday June 13th and will be held at the picnic area at Cave of the Mounds, near Blue Mounds. From Madison: Take the Beltline, Hwys 12/18 to exit 258, Hwys 18W/151S (Dodgeville exit, also know as Midvale Blvd. or Verona Road). Go west about 5 miles past Mount Horeb. Exit (to the right) on Cave of the Mounds Road (no exit ramp). Follow the signs (there is a small jog to the right at County ID at the top). The Cave is about 1/2 mile north of Hwys 18/151.

[President's Message – cont. on next page]

Next Meeting – Annual Picnic!

The BLGS Annual Picnic will be held on Saturday, June 13, 2009, starting at 11 a.m., at A NEW LOCALITY. That locality is the picnic grounds of Cave of the Mounds, Blue Mounds, Wisconsin. See the adjoining President's Message for details/directions on how to get there and what food items, etc., to bring.

Members who have any club machines are asked to bring them to the picnic site to allow other members to borrow them. However, no electricity is available at the picnic site for demonstrations.

A group tour of the Cave has been scheduled for 2:00 p.m. Because the Cave is cool (50° F year 'round), a long-sleeved shirt or sweatshirt is recommended. The tour (which is optional) lasts about one hour.

The cave was accidentally discovered (during a quarry blast) on August 4, 1939, and was opened to the public on Memorial Day weekend, 1940.



Officer Roster:

President

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

Vice-President

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

Secretary

Laurie Trocke
4771 County II
Highland, WI 53543
608-935-0597
lor3@netscape.com

Treasurer

Daisy Peterson
W4647 County FF
Monroe, WI 53566
608-328-1523
daisyjovilu@gmail.com

Editor

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

Show Chairperson

Teri Marché
(see above)

Field Trip Chairman

Dan Trocke
(see above)

Officer-at-Large

Tyrel Rouse
131 Langdon Street, Apt. 1
Madison, WI 53703
608-235-2865
karmacop_7@hotmail.com

President's Message – cont.

Unfortunately, John & Cherie Norquay will not be able to host us at their farm this year, due to a schedule conflict. The picnic will start at 11 a.m. just above the parking lot where there are grills and picnic tables. The club will provide charcoal, burgers, brats, & chicken on the grill as well as plates, utensils, condiments, and drinks. Everyone else – please bring a dish to pass such as a salad, fruit, casserole, or desert, for instance. Please RSVP to Dan Trocke dtrocke@acscm.com or call me at 608-935-0597 so that we can be prepared to know how many are coming and can perhaps advise others on what type of side dish is being brought. I guess it would be a shame if everyone brought desert, right? No, really ... ☺

Best of all, the Cave of the Mounds picnic area is free, although we won't be able to run any club machines there. If you have a club machine, please bring it to the picnic so that others can take it home and have a turn with it. I will bring a couple of card tables and a tent to cover the food tables. Please bring folding chairs for yourself, a card table if you have one handy, and of course please bring a mineral from your collection or a recent find to show off at the What's Rockin' Table.

Teri Marche has kindly offered to run the screen printing activity at the picnic this year. Thus, everyone should bring a tasteful article of clothing that they would like screen printed with the Badger Lapidary Club logo (i.e. shirts, jacket, book bag, boxers, nightgown, etc.). Extra points for creativity here, but Teri will have veto power on what ultimately gets screen printed.

Cave of the Mounds is a favorite local attraction and many of you have probably visited there in the past. But I don't remember ever visiting it with the Club and so I set up a tour for our group for 2:00 p.m. to take advantage of the group rates for those that would like to go on the cave tour. The cost to enter for adults is \$9 (normally \$14), teenagers (13-18 yr. old) is \$6 (normally \$7), and kids (12 and under) are \$5 each. The cave tour is optional and the picnic area is free, but we should try to be there before 11:00 a.m. so we can claim the area since we can't reserve it.

Other things that members can do there after a very brief meeting and always great meal is the Gemstone Mine and Fossil Dig, the Cave Rock and Souvenir Shop, Prairie and Savanna Restoration Areas, Rocks & Rain Gardens, Butterfly Gardens, Hiking/Biking Trails, and Snack Bar.

Lastly, I want to thank Tyrel Rouse for the truly outstanding job he did in sharing his knowledge and passion for radioactive minerals and history at the May meeting. I hope all of you will have a great summer and can join us for the upcoming picnic and field trips.

Thanks and take care,

Dan Trocke

Meeting Minutes

The May meeting was called to order at 10:00 a.m. on the 9th in the Monroe Library. We welcomed new members and guests. The following people attended: Dan & Laurie Trocke and kids; Johnny Fay; Daisy Peterson; Dave & Donna Reese; Ralph Burgener; Neal & Linda Trickel; Erich Hessner; David Cress; Cathy Romeis; Will Ward; Dennis, Mary & Jimmy Westby; Harold Carter; Clay Schroll; Normand Labbé; Teri & Jordan Marché; Tyrel Rouse; Brian & Cindy Green; and Dan & Ryan Winders.

We all sat back after introductions and enjoyed a very interesting presentation on radioactive rocks given by Tyrel Rouse. Tyrel explained how radiation works, how it is detected, the different types of particles that are emitted as well as the economic, environmental and historic impact of nuclear production. He did an excellent job. Thanks for the very informative and interesting presentation!!

After the presentation, the meeting minutes from April were approved. Daisy gave the *Treasurer's Report*. She said that the show report is delayed because she is still waiting on some receipts. She said that she paid the supplemental insurance bill and that we now have about \$1600 in checking. Dan suggested that the club start thinking about possible purchases and also what upkeep on equipment is needed this year. One of Dan's suggestions was a metal detector; Daisy said that she had one that she would be willing to sell to the club. We decided that we should develop a 'wish list' for club purchases.

We then moved on to announcements and reminders. Dan said that the sign up sheet for the Illinois trip was on the What's Rockin' Table and that the details and sign up sheet for the Bellevue and Utica trips would be e-mailed out and also made available at the picnic. The Readstown trip is still not set. Also, Dan wondered if anyone was interested in the Canada trip. He also let everyone

know that there was a mini field trip set up immediately after the meeting at the Rufer Quarry in Monroe. Everyone who was interested would meet in the parking lot and proceed to the quarry. Teri Marché volunteered to help as Safety Officer.

The first door prize was awarded to Tyrel Rouse. He won a lovely stone necklace.

Old Business. Dan explained the difference between the Midwest Federation Liability Insurance and the Williams Manny Accident Insurance. The MWF insurance covers lawsuits, shows, trips and activities. The Williams Manny insurance covers club members if they get injured.

We also asked for volunteers to work on the club website. Several people said that they would send information to the officers and might be able to take this on. It's still an on-going project.

Brian Green announced that he had made a switch for the club's slab saw to make it safer. Thanks, Brian!!

There was some discussion as to the location of the club equipment. John Norquay had created a spread sheet that lists everything. Currently, Teri Marché has the flat lap; Normand Labbe has the Genie, and everything else is in the trailer. If you would like to use any of the equipment, either make arrangements with the person that has it or else contact Daisy Peterson to get it out of the trailer.

Jordan Marché won the second door prize. It was a beautiful faceted amethyst gemstone.

New Business. Dan suggested that we remove specifics on the field trips from the newsletter in order to limit the number of people that might contact the quarry owners. He thought that just a general description would be fine for the newsletter.

Dan then moved on to a discussion of field trip safety. He said that each field trip would include a list of safety equipment that is required. For example, if it is an active quarry, the safety equipment would probably include hard hats, safety glasses, high visibility vests, and maybe steel-toed boots. These would especially be needed wherever there are head hazards or if such requirements are

posted or if these are the rules of the quarry. They would also be useful for road cuts. He said that he had brought hardhats along to give away to anyone that needed them and that he encouraged club members to invest in high visibility vests and safety glasses.

Dan also explained that some quarries require MSHA (Mine Safety & Health Administration) training and certification. This requirement generally applies to an active quarry. If you are interested, there is a free MSHA part 46 New Miner Training at the Best Western in Madison on June 17th & 18th. If you would like more information, please contact Dan or check it out on-line at: http://apps.commerce.state.wi.us/SBMS_RegisterApp/MS_RegisterDataRequirements.jsp

The details for the June 13th club picnic will be posted in the newsletter. Teri will be doing screen printing, so bring along dark colored shirts on which to get the club logo printed!

The next item was *Show Business*. Teri said that she couldn't set the date for next year's show until mid-June. She will let everyone know when she has that information. She handed out a few more 'Thank-you' gifts to people that were not at the April meeting. These included: Dennis & Mary Westby, Brian & Cindy Green, Clay Schroll, Dave Cress, Ralph Burgener, and Harold Carter.

The third door prize was won by Neal Trickel. He won a lovely piece of blue topaz.

The meeting was adjourned at 12:30 p.m. and many of the members met in the parking lot for the field trip to Rufer Quarry.

Respectfully Submitted,

Laurie Trocke

Show Report (abstracted from spreadsheet)

Total attendance at the 2009 show was 710 persons; 560 adults and 150 children. This was down from the 2008 total attendance of 936.

Total Gross Income for the 2009 show was \$3577.16. This too was down from the 2008 Total Gross Income of \$4253.73.

Total Show Expenses for the 2009 show were \$1687.70. This was substantially reduced from the 2008 Total Show Expenses of \$2728.00.

Net Show Income for the 2009 show was \$1889.46. Because of the greatly reduced Total Show Expenses, this figure differed only slightly from the 2008 Net Show Income of \$1975.73.

A more detailed breakdown of the 2009 show income and expenses is contained on a spreadsheet (which tracks such data back to 2004).

Respectfully Submitted,

Daisy Peterson

What's Rockin'

The What's Rockin' Table had kind of an eerie glow to it at the May meeting. It might have been due to all of the radioactive specimens that Tyrel brought for everyone to admire. Some of the samples from Tyrel were: uraninite/carnotite from the Colorado Plateau; uraninite/carnotite from Grants, NM; uranium in dinosaur bones from different locales and an entire flat of nicely labeled specimens. Tyrel also contributed some everyday items that are radioactive. These included a smoke alarm from WalMart; a Vaseline glass from an antique store; thorium which is found in lantern mantels; and a radium dial clock from an antique store in Madison.

We also had some great minerals, rocks and fossils this time around. Teri Marché brought a very interesting piece of calcite and fossils from Oregon, Wisconsin. Cathy Romeis brought some unique rocks, some of which contained copper and others with crystals. These were found on Forest Home Avenue in Milwaukee, during a new dig for a church basement.

There was also a very nice *Megalodon* shark tooth fossil from South Carolina that Erich Hessner brought in.

Clay Schroll brought a number of pieces of bark fossils that came from Union County, Illinois.

Dan Trocke contributed some blue & purple fluorite pieces from last year's Illinois field trip. One was a four-color fluorite specimen about 8 inches in diameter (brown, yellow, purple, and blue fluorite). In keeping with the radioactive mineral theme, he also brought a plate of black smoky quartz showing traces of radioactivity; some radioactive columbite crystals embedded in feldspar (made radioactive due to the presence of thorium); plus an unknown radioactive specimen containing sharp black metallic octahedrons that may be magnetite or uraninite, along with some unusual three-sided clear crystal scepters having curved faces at the terminations (that are perhaps calcite). Dan also brought a piece of stalactite that we found at a church rummage sale (of all places)!

Laurie Trocke

Tentative Calendar of Club Events – 2009

June 13 Annual Club Picnic (11 a.m.)

Locality: Cave of the Mounds picnic area

June 27 Field Trip: Dubuque Fossils & Agates (9:30 a.m. – 6 p.m.)

Trip leader: Dan Trocke

Location #1: Graf, IA roadcut

[cephalopods; bivalves; gastropods; brachiopods; graptolites; trilobites.]

Location #2: Dubuque Sand & Gravel Quarry

[Lake Superior agates; carnelian, jasper]

July 11 Field Trip: Reedstown Quarry?

Trip Leader: Flannerys (?)

July 25 Field Trip: Utica Pyrite, Fossils (8 a.m. – 6 p.m.)

Trip Leader: Dan Trocke

[Pyrite clusters; *Lepidodendron* roots; chert]

July 29 – August 8 Field Trip: Ontario, Canada

Trip Leader: Dan Trocke

Includes visit to Bancroft Gemboree, August 2.

August 22 Field Trip: Wisconsin River canoe trip

Trip Leader: Teri Marché

Sept. 12 Regular meeting – Show & Tell

Sept. 26 Field Trip: Four County Quarry, Iowa

Trip Leader: Teri Marché

October 10 Lapidary meeting

Host: Trockes

October 24 Field Trip: Bat Cave near Beetown

Trip Leader: open

Novem. 14 Regular meeting – program open

Decem. 12 Christmas Party

MWF Club Events

June 6-7: Viroqua, Wisconsin. Coulee Rock Club Annual Show. Viroqua Junior High School, 100 Blackhawk Drive. Saturday: 9:00 a.m. – 5:00 p.m.; Sunday: 9:00 a.m. – 4:00 p.m. Contact: Gary J. Krause, 606 E. Court Street, Viroqua, WI 54665, 608-637-2574, or garyjkrause@yahoo.com.

June 26-28: Bloomington, Indiana. Lawrence County Rock Club, 44th Annual Gem, Mineral, Fossil Show-Swap. Monroe County Fairgrounds, on Airport Road, 0.7 miles west of IN Rte. 45 South. Free admission. Friday: 10:00 a.m. – 6:30 p.m.; Saturday 9:00 a.m. – 6:30 p.m.; Sunday 10:00 a.m. – 4:00 p.m. For more information, call 812-295-3463 or 812-247-3780.

July 18-19: Minoqua, Wisconsin. Lakeland Gem & Mineral Club Annual Show. Lakeland High School, Hwys. 51 & 70. Contact: Ron Zimmer, 9280 Timberline Drive, Minoqua, WI 54548. Phone: 715-614-1080; rzimmer@charter.net.

August 15-16: Rice Lake, Wisconsin. Northwest Wisconsin Gem & Mineral Society Annual Show. Wisconsin Barron County campus, 1800 College Drive. Saturday 10 a.m. – 5 p.m.; Sunday 10 a.m. – 4 p.m. Contact: Roy Wickman, 1127 7th Street, Almena, WI 54895. Phone: 715-357-3223; rktswick@chibardun.net.

Door Prize Article – *Merycoidodon*

David Cress (after [Wikipedia](#))

Merycoidodon is an extinct animal (an oreodont) that somewhat resembled a pig in appearance, but it had a longer body, about 1.4 meters (4.6 ft) in length, and short limbs. The fore limbs had five toes (although the first one was vestigial), while the hind limbs had four. Given the shape of the limbs, it is unlikely that this animal would have been able to run fast. Unlike modern ruminants, they had a full set of teeth, although the molars were adapted for grinding up tough vegetation. Notably, they had strong, and very striking, canine teeth.

The skull of *Merycoidodon* has a pit in front of the eyes. Similar pits are found in the skulls of modern deer, which contain a scent gland used for marking territory. Although *Merycoidodon* was not directly related to deer, it seems likely that it possessed a scent gland, which may imply that it, too, was territorial.

Oreodonts lived in large herds and moved about from place to place. They seem to have preferred

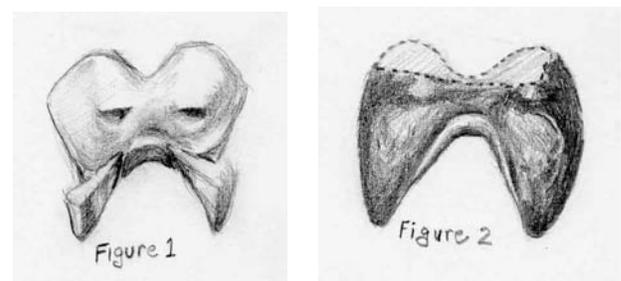
well-watered regions, where food was plentiful and succulent. The number of fossils found implies that, at one time, oreodonts were as plentiful in South Dakota as zebras are today on the steppes of North Africa.

Door Prize Article – What Is a Hypostome?

Teri Marché

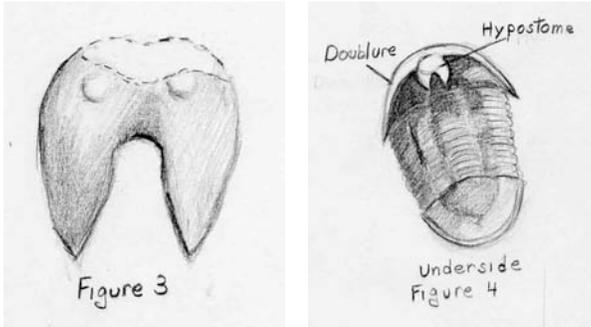
My story begins several years ago, when a major construction project near my house resulted in a large quantity of quarry stone being deposited as rip-rap along the ditch beside the road. It extends for the equivalent of two city blocks in length, and I have been meaning to check on it since it first appeared. Wisconsin winters have done their trick on this stone, so when I finally got out this past April, I found much of the rock nicely splitting into layers, some of which contained fossils. Lots of typical Ordovician marine species were revealed, such as gastropods, bivalves, brachiopods, horn corals, cephalopods, and crinoid stems.

One fossil, however (Figure 1), was a bit puzzling. Jordan and I made a guess about its identity, but I stopped by the University of Wisconsin-Madison Geology Museum to double-check. It gave Rich Slaughter and Klaus Westphal pause, but they finally arrived at the same answer we had, though I never mentioned our guess. It is a trilobite *hypostome*, the largest one they had ever seen. Rich pointed out a trilobite specimen on display that showed the *hypostome* in place, a most unusual occurrence. It was a relatively small feature of that fossil.



Jordan and I had worked this out once before regarding a fossil found at the Wacker Road site in northwestern Illinois. That *hypostome* (Figure 2) is about the same size as the new one, but quite different in many characteristics.

After this recent experience, I was completely surprised when Ralph Bergener brought me a fossil during our recent club field trip in Monroe, and asked what it was. Yup, another large trilobite *hypostome* (Figure 3), but different again from the previous two. Sensing my deep interest (I offered to pay any price for it), Ralph generously presented it to me. Blessings upon you!



So, you may be asking what a *hypostome* is. Here is what I have since discovered. The *hypostome* is a calcified feature located on the bottom, or ventral, side of the trilobite's head, or *cephalon* (Figure 4). It is just forward of the trilobite's mouth, and amazingly, protects the underside of its stomach, which is contained inside the large, central knob on the head, called the *glabella* (Clarkson, 1986, p. 308).

Hypostomes are divided into three groups according to how they attach to the underside of the head (<http://www.trilobites.info/hypoterm.htm>).

1) *Natant hypostomes* are not attached to the curving rim, or *doublure*, of the head, but they do line up with the front of the *glabella*, where the stomach is located. They were probably held in place by non-calcified membranes, and thus are rarely found with the body fossil. Natant hypostomes are usually simple in shape, being ovoid or rounded, without extensions or ornaments. Researchers interpret this group as indicating trilobites with generalized particle feeding habits, i.e., detritus feeders.

2) *Conterminant hypostomes* are loosely attached to the head rim, and are aligned with the front of the *glabella*.

3) *Impendent hypostomes* are loosely attached to the head rim, but do not align with the *glabella*.

The last two groups are much more elaborate and widely diverse in shape. They are also thought to indicate a predatory lifestyle, since the hypostome's anchoring against the head rim provides a stable platform against which to tear apart prey. In one genus, *Hypodicranotus*, the hypostome is extended into a pair of blades that continue along the underside of the entire body, almost to the tail (Clarkson, 1986, p. 310). Differences in hypostome shape may indicate specialized prey selection (<http://www.trilobites.info/hypoterm.htm>). This would seem to describe the three examples in my collection.

It is rare to find even attached (conterminant or impendent) hypostomes with the body fossils, because trilobites, like modern crabs, had to shed their shells in order to grow. In this process, the animal would split the head shell from the body shell, and crawl out of the thorax and tail (Boardman, Cheetham & Rowell, 1978, p. 218). In the process, the hypostome could easily become detached. The several parts of the molted shell are often separated before or during deposition. Sometimes a complete specimen, usually exposed on the upper, or dorsal side, will reveal the hypostome through x-ray photography (Levi-Setti, 1975).

While I have not been able to find exact illustrations of my three hypostomes, they seem most similar to those found in members of the genus *Isotelus*. Since this genus exists widely in Ordovician rocks, and is large in size, I will have to go with that generic identification, until I discover something more definite in terms of species. The fun continues.

References

- Boardman, R. S., Cheetham, A. H., & Rowell, A. J. (1987). *Fossil invertebrates*. Boston: Blackwell Scientific Publications.
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- Levi-Setti, R. (1975). *Trilobites: A photographic atlas*. Chicago: University of Chicago Press.

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

