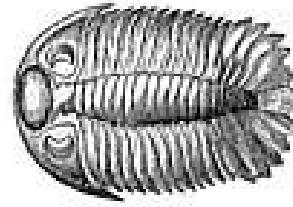


# The Trilobite



*Wisconsin Geological Society      September 2018*

**NEXT WGS MEMBERSHIP MEETING & PROGRAM  
Monday, September 10, 2018**

Immaculate Heart of Mary Church Hall  
(Downstairs, Enter at back of building)  
1212 South 117th Street (Just North of Greenfield Ave):  
West Allis, Wisconsin

7:00: Business meeting

There will be no formal presentation at our September meeting.  
We will have show and tell about our summer finds and adventures

The story of nitrogen

Nitrogen is the elemental foundation from which amino acids, proteins, and DNA are built. Most of our crop plants require lots of nitrogen to grow, especially corn. There is **a lot** of nitrogen in Earth's atmosphere. However, in its atmospheric state,  $N_2$ , it's useless to plants. It must be "fixed" with hydrogen to form ammonium nitrate, which plants *can* use. Prior to 1909, all fixed nitrogen on earth got fixed by soil bacteria living in the roots of leguminous plants or by lightning. The amount of fixed nitrogen on Earth, and the amount of crops that it could support, was *fixed* by nature. That is until Fritz Haber and Carl Bosch came along and transformed world food production.

The Haber-Bosch process, developed in 1909, combined atmospheric nitrogen and hydrogen gases (supplied by any of the fossil fuels) under heat and pressure with an electrical catalyst. The resulting *boom* fixed the nitrogen. In 1947, a munitions plant at Muscle Shoals, Alabama switched over from making WWII explosives to making chemical fertilizer using the Haber-Bosch process.

Today, more than half of it is applied to corn. There are about 45,000 items in the average American supermarket, more than one-quarter of which contain corn (look at what you're drinking right now, it probably contains high fructose corn syrup). At best, corn takes up only 3% of applied fertilizer, the rest gets into our water supply where it combines with hemoglobin and compromises our blood's ability to carry oxygen; most of the 2.2 pounds of nitrogen in your body was fixed by the Haber-Bosch process. Or it flows down the Mississippi into the Gulf of Mexico where it creates a huge hypoxic dead zone.

John Hammetter—WGS President

The minutes of the June Meeting were published in the July edition of the Trilobite.

### CALENDAR OF EVENTS

**25 August, 2018: EAU CLAIRE, WI;** Chippewa Valley Gem & Mineral Society Rock Swap.  
8 am - 4 pm. Eau Claire Center Grounds, Lorch Ave, Eau Claire.  
Contact: Paul Tubbs, 619 Van Buren St., Eau Claire 54703; [bizpam1@gmail.com](mailto:bizpam1@gmail.com)

**25 August, 2018: MT PLEASANT, WI** Racine Geological Society Annual Show.  
10 am - 5 pm. Bartlett Youth Foundation, 1120 N. Stuart Rd., Mt. Pleasant.  
Contact: John Lowman, 3223 Spruce St., Racine 53403; (262) 989-9193;  
[lowman.john@sbcglobal.net](mailto:lowman.john@sbcglobal.net)

**8: September, 2018: STODDARD, WI** Coulee Rock Club Swap  
10 am - 3 pm. Stoddard Village Park, 500 Division St., Stoddard.

**15 September, 2018: ROCKFORD, IL** Rock River Valley Gem & Mineral Society Rock Swap.  
9:30 am - 4 pm. Odd Fellows Lodge, 6219 Forest Hills Rd., Rockford.  
Contact: Duane Cushing, (815) 218-5011; [tc78@comcast.net](mailto:tc78@comcast.net)

**29-30 September, 2018: OSHKOSH, WI** Oshkosh Earth Science Club Annual Show.  
Sat 9 am - 5 pm; Sun 10 am - 4 pm. Sunnyview Expo Center, 500 E. County Rd. Y, Oshkosh.  
Contact: Ann Voges, 615 Monroe St., Neenah 54956; (920) 725-1640; [hankemps@milwpc.com](mailto:hankemps@milwpc.com)

The Midwest Federation website has an extensive calendar of shows and activities throughout the Midwest. <http://www.amfed.org/mwf/Calendar/calendar.html>

An extensive list on mineral shows is also at: <http://www.the-vug.com/vug/vugshows.html>

The WGS Scholarship winners for this year are:

Mark Borucki \$945.00

Libby Ives \$565.00

In addition, Libby was awarded an additional grant of \$400.00

**Earthaven Sale** See page 4 for their sale flyer

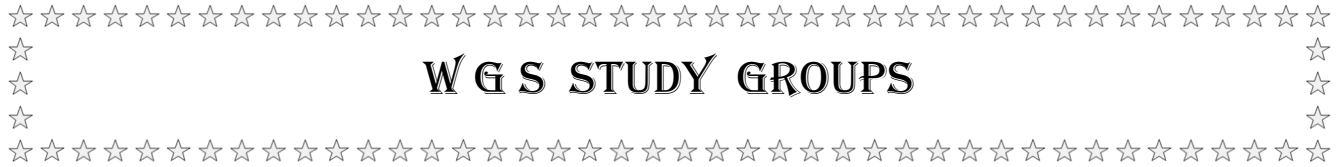
Hello, Everyone –

We've been sorting and re-evaluating specimens this year and as a result, we've decided to hold another Earthaven sale. This year, in addition to rock, mineral and fossil specimens, we will be including collecting tools and cutting and polishing equipment.

Friday September 7 and Saturday September 8; 9am to 4pm

Reminder: all proceeds support our educational efforts. We look forward to seeing you!

Mike & Ruth Riesch, Earthaven Museum, 920-855-6132



**WGS LAPIDARY STUDY GROUP**

Lapidary and metalworking classes for fall and winter begin after Labor Bay on Tuesday, September 11th. Morning classes are from 9:00 am to 11:30 am and afternoon classes are from 12:00 noon to 2:30 pm. Fees are for half day or full day classes for a semester in the craft room. There is also a small fee for the director at McGovern Park. McGovern Park Senior Center is located 4500 West Custer Avenue in Milwaukee.

The lapidary study group will look at various kinds of jasper on the Tuesday, September 18th.

Ed Fyrnys 414-453-3456

**WGS MINERAL STUDY GROUP  
AND  
FOSSIL STUDY GROUP**

The Mineral Study Group and the Fossil Study Group is on hold right now until we decide where and when to hold the meetings. It has been suggested that we hold the study group an hour before the regular meeting. We will discuss this at the September meeting.

**2019 Show**

**Our 2019 Show will again be held at Hart Park the weekend after Mother's day. May 18 and 19.**

Setup will be after 10:30 on Friday May 17th.

Paul Schmidt—Show Chairman  
pvs@wi.rr.com 414-771-8668

**Junior Rockhound** meetings are on hold and are no longer being held during monthly Wisconsin Geological Society meetings. We are in the process of having a monthly Saturday afternoon meeting. No more information is available at the present time. All of this is in the planning and scheduling stage.

WGS has received a card with the following message from Rose Marie Trokan's son Michael.

Dear Friends,

Thank you for your kind words and support from the Wisconsin Geological Society. Mom loved her rocks, loved going on trips, setting up and attending the shows, and making jewelry. You all were an important part of her life and enriched it.

Sincerely, Michael Trokan

**Earthaven Museum**

7599 Fifield Rd.  
Gillett, WI 54124

920-855-6132

[www.earthavenmuseum.org](http://www.earthavenmuseum.org)



**3<sup>rd</sup> Annual**

**EARTHAVEN SALE**

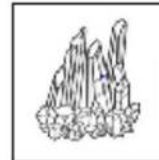
*(This is getting to be a habit...)*

**Friday, September 7<sup>th</sup> & Saturday, September 8<sup>th</sup>, 2018  
9:00 AM – 4:00 PM**

All proceeds to benefit the educational work of Earthaven Museum

**What's available?**

- **Rock, Mineral & Fossil Specimens**
  - Offered at reduced prices
  - Individually priced & by the flat
  - Includes items from this year's Montana & Idaho digs
- **Cutting/Polishing Equipment & Lapidary Materials**
  - (And a good-sized workbench!)
- **Jewelry, Gem Stones & Petrified Wood**
- **Collecting Tools & Equipment**
- **Fluorescent Minerals & Miscellaneous**



*Looking for a bargain? Reasonable offers accepted...*

**We look forward to visiting with and feeding you again this year!**

(And don't forget about that **REFRESHING WELL WATER!!!**)

*10% off for Rock Club Members*

## Bench Tips by Brad

### NEW BENCH TIPS BOOK

For those who enjoy these bench tips, I'm happy to announce a second volume is now available on Amazon. "More Bench Tips" includes 86 additional ways to save time, avoid frustration or improve quality at the bench. These new tips cover problems in fabrication, stone setting, casting, soldering and polishing. Browse through a couple of the new ones at <https://amazon.com/dp/B07D4B45JJ/>

See all Brad's jewelry books at [Amazon.com/author/Bradfordsmith](https://amazon.com/author/Bradfordsmith)

### SAVE WHEN BUYING SILVER

Silver products like sheet, wire, and casting shot are sold by the Troy ounce at what is called the spot price. That's what companies pay for the pure metal on the commodities market, and the spot price changes daily.

But in addition to the spot price, there is also a cost to fabricate the metal into wire or sheet, so the price of the item you buy is the cost of the metal plus the cost to make it. Different products have different fabrication charges because each takes a different amount of labor. Also, different companies will have different fabrication charges because of local labor rates and their desired profit margin.

You can save money by finding a company with a lower fabrication charge. Also, note that the fabrication charge per ounce is less on larger orders, so you can save more by buying more. Find a friend to place a joint order and split the shipping charges.

But for casting purposes, there's an even better way to save. Buy your silver at a coin store. They sell bars and rounds in pure and Sterling for the spot price plus about a dollar per ounce.

The local coin shop adds only a small profit over the spot price. So I save about \$3 per ounce, pay no shipping charges, don't have to wait for mail order, and support a local business.



## SAWING JUMP RINGS

The difficult part of making jump rings for me has always been holding the coil while cutting off the individual rings. I use a saw to get the best fit when closing the rings later. I've seen all sorts of suggestions for ways to hold the coil, but the one that works best for me is this little jig made from scrap wood.

It's about 2 inches wide and 4-5 inches long with a groove cut down its length to cradle the coil of wire and a thin stop attached to the front end.

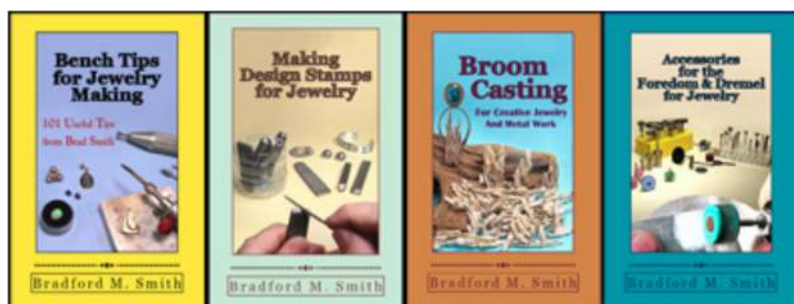
To cut the rings, thread your saw blade through the coil, hold the coil down in the groove and against the front stop, and saw through the bottom of the coil at about a 40 degree angle.

Don't forget to use some wax or cutting lube. It really does make a difference. If you don't believe me, do an experiment while you're cutting a lot of rings. Count how many rings can be cut before the blade breaks. First, do the test without lube, and then do it again while adding some lube to the blade after cutting every 8-10 rings.

It's the best way I've ever found to hold the coils easily and securely. If the coil doesn't move, you break fewer blades. And it is safer than some other techniques because you are cutting away from the fingers.



Pick Up a Few New Jewelry Skills With Brad's "How To Do It"  
<http://amazon.com/author/bradfordsmith> [www.BradSmithJewelry.com](http://www.BradSmithJewelry.com)



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The Purpose of the Wisconsin Geological Society, Inc is to:

Create an interest in the study of Geology

Provide a means for personal development in Geology.

Disseminate knowledge concerning all phases of Geology.

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**Sept. 2018**  
Volume 74 Number 08

# FIRST CLASS

To:

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Page 08



**The Trilobite**



Sept. 2018

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General Membership meetings are held each month (except July and August) on the second Monday of the month at 7:00p.m. in the Parish Hall (lower level) of the Immaculate Heart of Mary Catholic Church, 1212 South 117th Street; West Allis, Wisconsin.

All news, articles, and pictures to be included in the Trilobite should be forwarded to the editor by the 15th of the month. They can be mailed or e-mailed to:  
Paul and Verna Schmidt  
8213 Red Arrow Ct.  
Wauwatosa WI 53213  
pvs@wi.rr.com

**WGS Members, Please Note:**

**Your Membership Dues are renewed  
in November.**

\$15.00 Single Membership  
\$20.00 Family Membership

*Please remember to send your check to  
Club Treasurer Kitty Klein  
(See page 11)*

***The check should be made out to WGS***

**The Wisconsin Geological Society, Inc  
is now in it's 82nd year**