

Cuyuna Rock, Gem and Mineral Society

# The Agate Explorer

May 2019

## National Dinosaur Day On May 21st

Celebrate those large, extinct reptiles: dinosaurs. Scientists believe they first appeared about 245 million years ago, at the beginning of the Middle Triassic Epoch, and existed for about 180 million years, going extinct about 66 million years ago, at the end of the Cretaceous Period. The period when they lived is called the Mesozoic Era. During this time they went through many changes, and various species of dinosaurs replaced other species. Some dinosaurs were bipedal, meaning they walked on two legs, and some were quadrupedal, meaning they walked on all fours. Some switched back and forth. Some were covered with feathers, while others had what was almost like body armor. Some ran fast, and others were slow; most were herbivores, but some were carnivores. There were at least 700 species of dinosaurs, and possibly more than 1,000.



Richard Owen, an English anatomist, came up with the word "Dinosauria" in 1842. The word comes from the Greek word "deinos," meaning terrible or fearfully great, and "sauros," meaning reptile or lizard. He applied the term to three animals that fossilized bones had been found of over the previous few decades. The remains came from reptiles that were both larger and had more vertebrae than any found before. The earliest known published record of dinosaur remains was in 1820, and many fossils were found in the 1820s and 1830s. Many other kinds of dinosaurs were found in the years following the 1842 naming as well. Fossils of dinosaurs have now been found on all seven continents.

Dinosaur Day, also known as International Dinosaur Day, is observed the third Tuesday in May.



Franklin Art Center

## Club Information

Website-[www.cuyunarockclub.org](http://www.cuyunarockclub.org)  
Email-[cuyunarockgemclub@gmail.com](mailto:cuyunarockgemclub@gmail.com)

### Meeting Place

Lower level  
Franklin Arts Center  
1001 Kingwood St, Brainerd, MN 56401

### Directions

.4 mile east of Business Hwy. 371  
& Hwy. 210 intersection.  
(Castle turret water tower.)

### Date/Time

the 2nd Saturday of each month  
at 2 p.m. unless otherwise noted.

### Club Dues

\$20/ family  
Free /unaccompanied juniors  
Membership runs  
from Jan. 1-Dec. 31st.

### Club Purpose:

To foster an interest (& encourage young & old) to study earth science, enjoy the art of lapidary, hunting for rocks, and semi-precious stones. We also strive to use what we know and acquire to further educate everyone who has an interest in our hobby.

*We are a not-for-profit organization.*



### Show Speaker

Joe Dorris,  
of Pinnacle 5 Minerals  
and

The Weather Channel's  
television show Prospectors,  
will be speaking on Saturday,  
May 11 at 2:00 p.m.  
His topic is  
"Mining in Colorado".

### Rock Wrappers

*An open gathering for wire  
wrappers starting at 10 a.m. on  
meeting Saturdays. Hang out with  
other wrappers, and work on your  
projects. (Bring all supplies  
needed.) Learn tricks to make  
wrapping easier, a new design, or  
perhaps a new place to find  
supplies. All skill levels welcome!*

## Club Calendar

May 4—(note change of date) - Meeting—show prep  
May 11 & 12—Show  
June 7—Pebble Pup Day Camp; 9-4  
June 8—Day Camp Agate Pick; Meeting  
July 5-7 (tentative) - field trip to Thunder Bay for amethyst  
Mid-September-early October—fall field trip to SD & MT  
*Information subject to change.*



## Show Volunteer List

**Show Dates: May 11 & 12**  
**Please consider helping at our biggest fundraiser of the year.**

### **Show /Silent Auction Set up (Friday):**

Gerry & Linda Shuety, Vern Iverson, Joanie Hanson, Mike Stanwood, Lilly Peterson, Ed & Marcia Opatz, Chuck Durnan, Lisa Hughes, Jane Kimball

### **Set up Display Cases (Friday):**

John Kimball

### **Door Admission:**

Sat. 9-noon Vern Iverson  
 Nona Iverson

Sat. noon-3 Jane Kimball  
 Kathy Peterson

Sat. 1-5 Judy Frampton  
 Kathy Peterson

Sun. 10-1 Judy Frampton  
 Jane Kimball

Sun. 1-4

### **Club Table:**

Sat. 9-1 Joanie Hanson  
 Lilly Peterson

Sat. 1-5 Sherry Busse

Sun. 10-1 Joanie Hanson

Sun. 1-4

### **Door Prizes/Vendor Survey:**

Keith Lorensen

### **Rock Saws/Geode Cracker:**

Sat. John Krebs

Sun. Ray Strassberg  
 Marge Strassberg  
 Steve Moening

### **Wizard of Rocks:**

Sat. 9-noon Lyndon Johnson

Sat. noon-3

Sat. 3-5

Sun. 10-1

Sun. 1-4

### **Silent Auction:**

Sat. 9-noon Don Trieglaff  
 Diane Trieglaff

Sat. noon-3

Sat. 3-5 Lisa Hughes

Sun. 10-1

Sun. 1-4

### **Security:**

Sat. 9-noon Mike Stanwood (all day)

Sat. noon-3

Sat. 1-3 Gerry Schuety

Sat. 2-5 Linda Schuety

Sat. 3-5

Sunday (all day) Mike Stanwood

Sun. 10-1 Arthur Hagen

Sun. 1-4

### **Security—back gate:**

Sat. 6-9 Erik Ess

Sat. 9-noon

Sat. noon-3

Sat. 3-6

Sun. 9-12-:30

Sun. 12:30-4

### **Kids' Corner/Sluice Box:**

Sat. 9-1 Judy Frampton  
 Lisa Hughes

Sat. 1-5 Sandi Hilsen  
 Julie Jo Larson

Sun. 10-1 Sherri Moening

Sun. 1-4 Judy Frampton  
 Julie Jo Larson

### **Spinning Wheel:**

Sat. 9-noon Lori DuBois

Sat. noon 3 Christine Reisz

Sat. 3-5

Sun. 10-1

Sun. 1-4

### **Show Tear Down:**

Bev Williams, Erick Ess, Lilly Peterson, Joanie Hanson, Ed & Marcia Opatz, Lisa Hughes, Rudy & Lynnette Fellman, Julie Jo Larson

### **Monday AM Clean Up:**

Dolores & Tony Sibet, Ed & Marcia Opatz, Judy Frampton

**To sign up, please  
 contact Joanie Hanson at 218-831-2665  
 (leave message); or email  
 cuyunarockgemclub@gmail.com  
 or Ed Opatz at 320-250-1363.**

## Rock Room

This Club is unique because it has its own rock store. Here is an inventory of what is available for Club members to purchase. Stop in when you come to the Clubhouse.

Grit and Polish  
 Montana Moss & Blue Agate  
 Montana Petrified Wood  
 Oregon Geodes

Chalcedony  
 Desert Rose  
 Plume Agate  
 Yellow Jasper  
 Bruno Jasper  
 Owyhee Picture Jasper  
 Brazilian Agates  
 Amethyst  
 Tee Pee Canyon Agate  
 Hauser Bed Agate Thundereggs  
 Slabs of all sizes and types

Condor Agate  
 Septarian Nodules—Utah  
 79 Bed Geodes—Oregon  
 Moroccan White Agate  
 Obsidian  
 Mineral specimens  
 Dinosaur bone  
 Mexican Luna Lace Agate  
 Starolites  
 Small Botswana Agate



**17th Annual**

# **2019 Cuyuna Agate & Mineral Show**

Note  
Change of  
Weekend

***Saturday, May 11, 9-5***

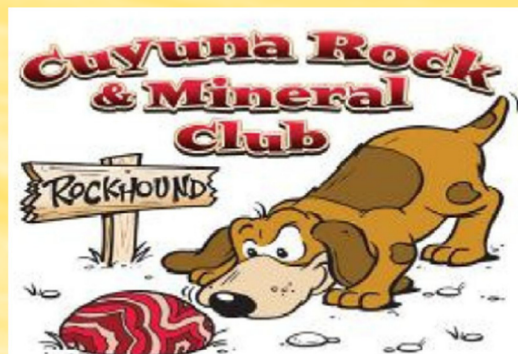
***Sunday, May 12, 10-4***

*Rain or Shine*

**Crow Wing County Fairgrounds**

**2000 S.E. 13th St.**

**Brainerd, Minnesota**



**Agate from around the world  
Handcrafted Jewelry ♦ Fossils  
Crystals ♦ Unique Décor Items**

**Door Prizes ♦ Specimens**

**Displays ♦ Kids' Corner ♦ Knappers**

**Equipment and lapidary supplies**

**Silent Auctions ♦ Minerals ♦ Art**

**Rock Cutting ♦ Geode Cracking**

**Ask the Wizard of Rocks**

**Rough Rock ♦ Slabs & Cabochons**

**Over 60 Vendors Inside & Outdoors**

***Admission: \$2 Adults, Kids under 12 \$1  
Kids and Mothers free on Sunday!***

**ATM  
on site!**

**New! Sluicing for  
treasures.**

**Great  
Concessions!**



**Member  
MW Federation of  
Mineralogical & Geological  
Societies**

**American  
Federation  
of Mineralogical  
Societies**



***For more information  
call Sharon Smith at 218-343-7037  
or email: Sharon@agatesrock.com***

***Buy ♦ Sell ♦ Trade***

***www.cuyunarockclub.org***



## Jewelry Making Tip

By Brad Smith  
[www.BradSmithJewelry.com](http://www.BradSmithJewelry.com)

### Multiple Tube Settings

I had to cut a dozen or more 4mm tube settings, all the same. Ordinarily that's a painful amount of sawing, so I tried out my new mini chop saw. Not too bad.

The saw just has a simple vise on the base, so I needed a way to cut each piece to a set length. Made a jig out of a scrap of copper to hold against the saw blade while I push the tubing out to touch it. Then I tightened

the tube in the vise to make the cut.

The thing cuts clean and fast. Done in about 5 seconds, but the next problem is looking for the short length that was cut.

Fixed the problem by holding the end of the tube with chain-nose pliers.

I think I'm going to find all sorts of uses for this thing.

More tips for working

smarter in my books at [amazon.com/author/bradfordsmith](http://amazon.com/author/bradfordsmith)

Happy hammering folks.



## Wallaby-Size Dinosaur Discovered in Australia

The Liscomb Bonebed along the Colville River in Alaska's North Slope is chock-full of duck-billed dinosaur fossils. In fact, over 99 percent of the 6,000 dinosaur fossils pulled from the quarry are hadrosaurines, one branch of the hadrosaur, or non-crested duck-billed dinosaur tree. A newly identified fossil, however, adds a bit of unexpected variety to the prehistoric Arctic ecosystem: researchers found the fossilized remains of a lambeosaurine, a crested duck-billed dino, according to a new study published in the journal *Scientific Reports*.

In 2014, paleontologists from the Perot Museum of Nature and Science in Dallas were examining a cache of fossils from the 70 million-year-old bonebed when they came across a fragment of skull that seemed different from the others, reports Priscella Hwang at the CBC. Most of the bones in Liscomb came from a species of hadrosaur called *Edmontosaurus*, but the team believed this fragment might come from a theropod dinosaur. When that turned out not to be the case, the museum filed the bone fragment away with the other hadrosaurs.

When grad student Ryuji Takasaki from Hokkaido University in Japan came to the museum to study the hadrosaur fossils, however, he also picked up on the strange skull fragment.

"This guy probably looked at more *Edmontosaurus* bones than anyone else on the planet," paleontologist Anthony Fiorillo of the Perot Museum tells Hwang. "He came into my office one day and said, 'This is something different.'"

On closer analysis, the fragment was found to belong to a lambeosaurine, a type of duck-billed dinosaur with large hollow crest on its head.

"This first definitive evidence of a crested hadrosaur in the Cretaceous Arctic tells us that we still have much to learn about the biodiversity and the biologically productive environments of the ancient north, and that the story these fossils tell us is continually evolving," Fiorillo says in a press release.



Stephanie Pappas at LiveScience reports that prior to this find, the furthest north a lambeosaurine was found was southern Alberta. In other parts of the world, lambeosaurines are found in upland habitat and the team believes that the animals were likely extremely rare along the coast. The find also suggests that there may be a link between the lambeosaurines found in North America and those found in Asia.

The Arctic was a bit warmer and forested during the Late Cretaceous when these dinosaurs lived, but life was still much more challenging than it was for dinosaur living in the tropical or subtropical areas of Earth. The Associated Press reported in 2015 that the mean annual temperature hovered around 40 degrees Fahrenheit and was simi-

lar to present day British Columbia.

At least four unique dinosaur species have been confirmed in the region and paleontologists believe they have found evidence for a dozen species of polar dinos in the area, suggesting that certain dinosaurs were adapted to the colder, harsher climate. Gregory Erickson of Florida State University, who helped discover a new species of hadrosaur along the Liscomb Bonebed in 2015 says it's "basically a lost world of dinosaurs that we didn't realize existed."

Paleontologists have not found cold-blooded animals like lizards, turtles or crocodiles in the region, suggesting that the polar dinos may have been able to regulate their own body temperature, which may help researchers better understand dinosaur physiology.

How these giant creatures managed to live in the relatively resource-poor Arctic could also help us understand how contemporary creatures may adapt as the current climate changes.

"Even in an ancient Arctic, it was a very rich environment capable of animals that thrived in it," Fiorillo tells Hwang. "Studying this ecosystem and understanding how it works, may help inform what a [modern] warming Arctic may look like." These hardy dinos weren't just restricted to the Arctic. Paleontologists have found polar dinosaurs in Australia and Antarctica that evolved in similar conditions.

<https://www.smithsonianmag.com/smart-news/new-type-arctic-dinosaur-discovered-alaska-180971872/>

# Mineral Encyclopedia



Bornite is a copper iron sulfide mineral with a chemical composition of  $\text{Cu}_5\text{FeS}_4$ . It occurs

in igneous, metamorphic, and sedimentary rocks. Mappable concentrations of bornite occur in hydrothermal veins, contact metamorphic zones, and in the enriched zone of many sulfide mineral deposits. Chalcopyrite, marcasite, and pyrite are other sulfide minerals commonly associated with bornite. Small amounts of bornite are also found disseminated through mafic igneous rocks and carbonaceous shales.

## Peacock Ore"

Bornite is easily recognized because it tarnishes to iridescent shades of blue, purple,

red, green and yellow. It is commonly called "peacock ore" or "purple copper ore" after these iridescent colors. Upon surface exposure, bornite will weather to chalcocite or other copper minerals.

Bornite is a popular and fast-selling mineral specimen at museums, mineral shows, and tourist shops. However, some material sold as "peacock ore" has a tarnish with spectacular colors - greatly exceeding what is expected on bornite. This material is frequently chalcopyrite that has been intentionally tarnished with acid. This treatment is done to produce an item that is visually appealing and sells rapidly.

## Physical Properties of Bornite

The colorful iridescent tarnish of bornite and its low hardness are very helpful for separating bornite from other minerals with a submetallic to metallic luster. Few of them have a similar tarnish, and most of them are much harder.

## Physical Properties of Bornite

**Chemical Classification** Sulfide

**Color** Reddish brown or brownish red on a fresh surface. Iridescent purple, blue, and black on a tarnished surface.

**Streak** Grayish black

**Luster** Submetallic to metallic

**Diaphaneity** Opaque

**Cleavage** Poor

**Mohs Hardness** 3

**Specific Gravity** 5.0 to 5.1

**Diagnostic Properties** Color, tarnish, lower hardness than similar minerals.

Almost always found in massive occurrences and very rarely as tiny crystals.

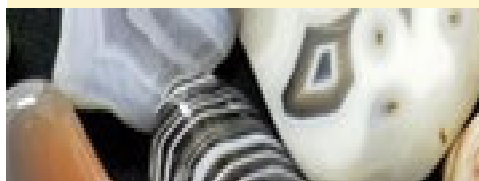
**Chemical Composition** Copper iron sulfide,  $\text{Cu}_5\text{FeS}_4$

**Crystal System** Orthorhombic

**Uses** Primarily an ore of copper.

<https://geology.com/minerals/>

**Cuyuna Rock, Gem, & Mineral Society on the Web**  
[www.cuyunarockclub.org](http://www.cuyunarockclub.org)



## Sunshine Requests

If you know someone who could use a little sunshine—birth, illness, surgery, family death—please contact Christi Higgins at 320-224-6650.





**We're on Facebook!**  
**Cuyuna Rock, Gem & Mineral Society**

*is a closed group, so you must ask to join. After being approved you can follow the members' posts and add your own information.*

## Cuyuna Rock, Gem & Mineral Society Meeting Minutes Saturday March 23, 2019 Board Meeting

The meeting was called to order at 12:12 pm by President Ed Opatz. Present were Vice-President Sharon Smith, Treasurer Kevin Martini, Secretary Joanie Hanson, Board Members at Large Lori Dubois, Lilly Peterson, and Vern Iverson.

A Motion was made and passed to approve the amended minutes from the Feb meeting. Minutes will always be a month late in the newsletter so that they can be approved before being published.

Report from lawyer on the "Hold-Harmless" form (release and waiver)- continuing to work on it.

Ed gave a summary of types of rock and cost of purchases for the rock club from his trip out west. The information will be posted in the treasurer's the treasurer's report.

Secretary's Report- Joanie:  
 Joanie wanted to know who gets honorary

memberships- Harry Wagoner and Orren Snavely.

Joanie printed address labels that say "Property of Cuyuna Rock Club" to put on all library materials.

A question came up as to whether there is a budget for books- the board will approve expenditures as they come up.

Sharon suggested we order the Diamond Dan publication "The World of Minerals and Crystals" order 100 at \$1.00/per Diamond Dan Publications has also donated to the club the "Mini Miners Monthly".

Joanie will be working on getting all member, vender, roster, emails, into the club computer.

Lori will keep the roster up to date. The computer will be accessible board members as needed.

A motion was made and passed to approve the Kid's Day Camp flyer as amended.

Treasurer's Report- Kevin:

A motion was made and passed to pay all the bills- the full report will be posted at the rock club.

12 member renewals last month.

Kevin will again be donating for the club to Kinship Partners "Taste of the Lakes".

The grinders and polishers that the club had for sale have been sold.

The shop equipment is being upgraded with new saw blades and grinders.

Show Business- Sharon:  
 Show insurance has been paid. There will be a porta-potty available near the outside vender's area.

School flyers will be distributed at the April meeting.

Vern was able to get 2 more Pepsi signs that will be hung at the fairgrounds.

Vern is working on the sluice box with Ed.

Respectfully Submitted,  
 Joanie Hanson, Secretary



## May Rock Shows

3-5—SACRAMENTO, CA: Gem Faire Inc; Scottish Rite Center; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7 weekend pass; Website: <http://www.gemfaire.com>

3-5—MCPHERSON, KS: McPherson Gem & Mineral Club; McPherson County Fairgrounds; Fri. & Sat. 9-6, Sun. 10:30-3; free; contact Alan Hedrich, (620) 747-2265.

3-5—KALAMAZOO, MI: Kalamazoo Geological & Mineral Society; Kalamazoo County Expo Center; Fri. 4-8, Sat. 10-6, Sun. 10-5; \$4, under 13 free; Website: [KalamazooRockClub.org](http://KalamazooRockClub.org)

3-5—YUCAIPA, CA: Yucaipa Valley Gem & Mineral Society; Yucaipa Music & Arts Festival; Fri. 6-10, Sat. 12-10, Sun. 12-6; free; Website: [YVGMS.org](http://YVGMS.org)

4-WATERLOO, ON: Kitchener Waterloo Gem & Mineral Club; Button Factory Arts; Sat. 10-6; free; Website: [www.calaverite.com/kwgm/](http://www.calaverite.com/kwgm/)

4-5—CINCINNATI, OH: Cincinnati Mineral Society, Cincinnati Dry Dredgers; Sharonville Convention Center; Sat. 10-7, Sun. 11-5; \$9, \$3 for children. Website: [www.geofair.com](http://www.geofair.com)

4-5—KINGMAN, AZ: Mohave County Gemstoners; Kingman Academy of Learning; Sat. 9-5, Sun. 9-4; free; Website: [www.gemstoners.org](http://www.gemstoners.org)

4-5—TOPSFIELD, MA: North Shore Rock & Mineral Club; Topsfield Fairgrounds, Coolidge Hall & Trade Building; Sat. 9-5, Sun. 10-4; adults \$6, srs \$4, under 12 free; Website: [www.northshorerock.net](http://www.northshorerock.net)

4-5—ROSEBURG, OR: Umpqua Gem & Mineral Club; Douglas County Fairgrounds; Sat. 9-5, Sun. 10-4; free; contact Janet Stringfellow; [rjstringfellow@gmail.com](mailto:rjstringfellow@gmail.com)

4-5—WACO, TX: Waco Gem & Mineral Club; Extraco Events Center; Sat. 9-6, Sun. 10-5; \$5, under 11 free; Website: [www.wacogemandmineral.org](http://www.wacogemandmineral.org)

4-5—MARSHFIELD, WI: The Heart of Wisconsin Gem & Mineral Society; Marshfield High School Fieldhouse; Sat. 10-5, Sun. 10-4; free; Website: [heartofwisconsin-rocks.com](http://heartofwisconsin-rocks.com)

4-5—EVERETT, WA: Everett Rock & Gem Club; Everett Community College; Sat. 10-6, Sun. 10-5; free; Website: [Everettrockclub.com](http://Everettrockclub.com)

4-5—BILLINGS, MT: Billings Gem & Mineral Club; Al Bedoo Shrine Auditorium; Sat. 10-5, Sun. 10-4; \$3, under 12 free; contact Doug True, (406) 670-0506.

4-5—RICHMOND, BC: Richmond Gem & Mineral Society; Performance Hall & Atrium, Richmond Art & Cultural Center & Library; Sat. 10-5, Sun. 10-4; admission by donation; Website: [richmondbclapidary.wordpress.com](http://richmondbclapidary.wordpress.com)

4-5—ANAHEIM, CA: Anaheim Searches

Gem & Mineral Society; Brookhurst Community Center; Sat. 10-5, Sun. 10-4:30; free; Website: [www.searchers-rocks.org/](http://www.searchers-rocks.org/)

4-5—PITTSBURGH, PA: Mineralogical Society of N.E. Pennsylvania; Oblates of St. Joseph; Sat. 10-5, Sun. 10-4; \$3, under 13 free; Website: <http://msnepa.org/>

8-12—FRANKLIN, NC: Echo Valley Gem Show; across from GLW; daily 9-6; free; Website: [www.bellpointinc.com](http://www.bellpointinc.com)

9-11—LOGAN, UT: Cache Rock & Gem Club; Cache County Event Center; Thu. & Fri. 10-8, Sat. 9-6; free; Website: [cacherockgemclub.weebly.com](http://cacherockgemclub.weebly.com)

10-12—SANTA BARBARA, CA: Gem Faire Inc; Earl Warren Showgrounds; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7; Website: <http://www.gemfaire.com>

10-12—COLUMBIA, MO: Central Missouri Rock & Lapidary Club; Knights of Columbus; Fri. 12-7, Sat. 9-5, Sun. 10-4; 3-day pass adults \$6; under 12 free; Website: [cmrlc.org](http://cmrlc.org)

10-12—MARIETTA, GA: Georgia Mineral Society; Cobb County Civic Center; Fri. & Sat. 10-6, Sun. 12-5; free; Website: [www.gamineral.org](http://www.gamineral.org)

11-12—HERMISTON, OR: Nature's Treasures Under Foot; Hatrockhounds Gem & Mineral Society; Eastern Oregon Trade & Event Center (EOTEC); Sat. 10-5, Sun. 10-4; \$3, under 13 free; contact Mike Filarski, (541) 571-2593

11-12—BOZEMAN, MT: Bozeman Gem & Mineral Club; Gallatin County Fairgrounds; Sat. 10-6, Sun. 10-4; \$3; under 12 free; Website: <http://bozemangemandmineralclub.com>

11-12—BRAINERD, MN: Cuyuna Rock, Gem, & Mineral Society; Crow Wing County Fairgrounds; Sat. 9-5, Sun. 10-4; adults \$2, children \$1, free admission for children & mothers Sunday; Website: [www.cuyunarockclub.org](http://www.cuyunarockclub.org)

17-19—COSTA MESA, CA: Gem Faire Inc; OC Fair & Event Center; 12-6, Sat. 10-6, Sun. 10-5; \$7 weekend pass; Website: <http://www.gemfaire.com>

17-19—PORTLAND, OR: Mt Hood Rock Club; Jackson Armory; Fri. 10-5, Sat. 10-5, Sun. 10-4; free; Website: [www.mthoodrockclub.com](http://www.mthoodrockclub.com)

17-19—JOPLIN, MO: TriState Gem & Mineral Society; Joplin Historical & Mineral Museum; Fri. 9-5, Sat. 9-5, Sun. 9-3; free; Email: [joplinmuseum@sbcglobal.net](mailto:joplinmuseum@sbcglobal.net)

18- FAIRLESS HILLS, PA: Rock & Mineral Club of Lower Bucks County, Inc.; Christ United Methodist Church; Sat. 9-3; \$2, free under 13 free; Website: <https://sites.google.com/view/lowerbucksparecks/home>

18-19—WAUWATOSA, WI: Wisconsin Geological Society; Muellner Building; - daily 10-5; \$3, children free; contact Paul

Schmidt, (414) 771-8668

18-19—HAMILTON, MT: Bitterroot Gem & Mineral Society; Ravalli County Fairgrounds; Sat. 10-5, Sun. 10-4; \$3; contact Deb Strickland, (406) 363-3194

18-19—SAINT JOSEPH, MI: Blossomland Gem & Mineral Society; Lake Michigan Catholic Elementary School; Sat. 9-6, Sun. 12-6; free; contact Pam Kriegsmann, [blossomlandrockclub@gmail.com](mailto:blossomlandrockclub@gmail.com)

18-19—BENNINGTON, VT: Southwestern Vermont Mineral & Gem Club; Grace Christian School; Sat. 10-5, Sun. 10-3; \$5, children free; contact J W Cotrofeld; (802) 375-6782

18-19—LAKEVIEW, OR: Tall Man Rock Chippers; Lakeview Fairgrounds; Sat. 10-5, Sun. 10-4; free; contact LeRoy Johnson or Mark Deidrich, Email: [lostmymarbles@yahoo.com](mailto:lostmymarbles@yahoo.com)

18-19—NORTH OLMSTED, OH: Parma Lapidary Club; Soccer Sportplex; Sat. 10-6, Sun. 10-5; \$6, under 12 free; Website: [ParmaLapidary.org](http://ParmaLapidary.org)

18-19—PATCHOGUE, NY: Celinka Gem Shows/Suffolk Gem & Mineral Club; Our Lady of Mt. Carmel Auditorium; daily 10-5; \$6, under 12 free; Website: <http://www.suffolkgem.com>

24-26—SALEM, VA: Treasures Of The Earth Gem & Jewelry Shows; Salem Civic Center; Fri. & Sat. 10-6, Sun. 11-5; \$5, under 16 free; Website: [www.toteshows.com](http://www.toteshows.com)

25-26—ST. CHARLES, IL: CGMA (Chicagoland Gems & Minerals Association); Kane County Fairgrounds; Sat. 10-6, Sun. 10-5; \$5; Srs/students \$3; Website: [www.cgma.rock](http://www.cgma.rock)

25-26—FORT WORTH, TX: Fort Worth Gem & Mineral Club; Will Rogers Memorial Center; Sat. 10-6, Sun. 10-5; \$5, srs/students \$4, under 17 free; Website: [www.fortworthgemandmineralclub.org](http://www.fortworthgemandmineralclub.org)

May 2019-June 2019

31-2—BONNEY LAKE, WA: Puyallup Valley Gem & Mineral Club; Swiss Park; Daily 10-5; free; contact Jim Christian, (253) 987-6751

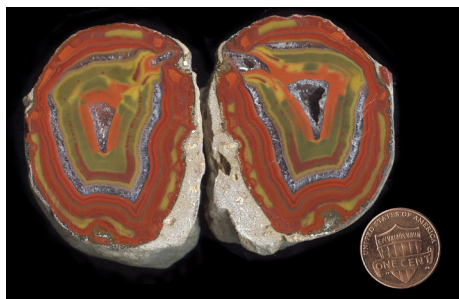
31-2—TULSA, OK: Gem Faire Inc; Expo Square; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7 weekend pass; Website: <http://www.gemfaire.com>

31-2—WAUSEON, OH: State Line Gem & Mineral Society; Fulton County Fairgrounds; Fri. 12-6, Sat. 10-6, Sun. 11-4; \$4, srs/students \$3, under 13 free; Website: [statelinegms.com](http://statelinegms.com)

31-2—COLORADO SPRINGS, CO: Colorado Springs Mineralogical Society; Norris Penrose Event Center; Fri. 12-7, Sat. 10-5, Sun. 10-4; \$5, under 9 free; Website: <http://www.csms1936.com/>

## Agates From Around The World

### Chinese Fighting Blood



The agates from the mines of Hebei Province were known for many decades if not millenias and they have been widely used for carving purposes and it was recently brought to the market for agate collectors by a local Chinese collector. A few years later, the mines are supposedly already closed and in process of being reclaimed. So it's unfortunate that due to the carvers' demand for the agates, the better agates are becoming rather difficult to obtain, thus, too expensive for any general collectors.

The Fighting Blood Agates from Lui Da Wan area are generally red to orangish yellow often with plume inclusions while those from Middle Beds are more colorful with sharper bandings.

<http://www.sailorenergy.net/Agates/AgatesChinaFightingBloodAgates.html>

### Cuyuna Rock, Gem & Mineral Society General Meeting Minutes Saturday March 23, 2019

The meeting was called to order by President Ed Opatz at 2:05 p.m.

There were 31 members present.

Approved minutes from February's meeting.

Reminded all present to sign in and sign up for door prizes.

Guests- 2 new members.

Ed mentioned the summer trip being planned to Thunder Bay for amethyst starting July 5th.

Vern is keeping an inventory of club t-shirts. Talk to him if you need one.

Joe Dorris of "Prospectors" TV show fame will be speaking/presenting at the show.

Need help with show prep: sorting rock,

## Summer Field Trip

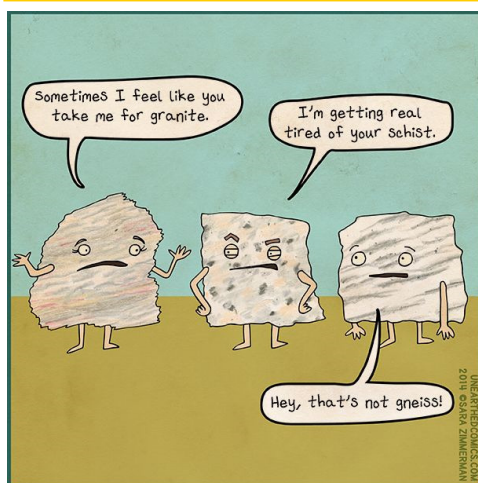
Plans are being made for a long weekend trip to Thunder Bay to collect amethyst.

The tentative dates are Friday-Sunday, July 5-7.

A sign-up sheet will be available at upcoming meeting in order to plan this trip.

It is necessary to have a passport to travel to Canada.

You may also check to see if an enhanced driver's license is acceptable.



<https://www.pinterest.com/pin/487373990898690035/?lp=true>

distributing flyers and school packs when they are ready, preparing Kids' Corner items.

May 15 is National Dinosaur Day- we will have some thing related to that at the show.

Volunteer signups for show- need more members to help.

Security for show- Joy Larson will talk to somebody at the college.

Jim Reed will do a future talk on how to file a BLM claim.

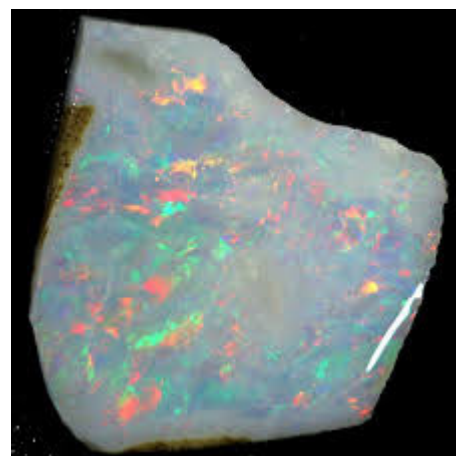
Ray Strassburg will be available to help with shop saws.

Kids' Program today- Lisa Hughes

Door prize winners- Mary K Hanson, Steve Moening, Aiden Rersz, Erich Ess, Ed Walton.

Respectfully Submitted,  
Joanie Hanson

## Precious or Semi-Precious Gemstones



Opal is hydrated amorphous silica, with the chemical formula ( $\text{SiO}_2 \cdot n\text{H}_2\text{O}$ ). It may contain from 3% to 21% water by weight. Opal is classified as a mineraloid rather than mineral. The internal structure causes the gemstone to diffract light, potentially producing a rainbow of colors. Opal is softer than crystal silica, with a hardness of around 5.5 to 6. Opal is amorphous, so it does not have a crystal structure.

<https://www.thoughtco.com/alphabetical-list-of-precious-and-semiprecious-gemstones-4134639>

## The World of Jaspers



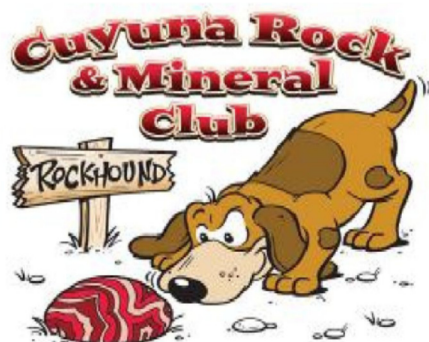
### Apache Picture Jasper

Apache Picture Jasper is called a scenic or picture jasper. But it is actually a rhyolite found in the Mimbres Valley of New Mexico. This material has also been called Mimbres Valley Jasper. The cactus like figures and hills in this material seem to depict the deserts of the legendary old west. The shades of maroon and dusty pink are often seen in evening photos taken in the deserts of the southwest.

<https://www.minerals-n-more.com/new-mexico-apache-jasper-silver-jewelry>

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## The Agate Explorer

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Members of AFMS & MWF

## Notes from the President

My wife and I just got home from a 16 day trip to Morocco. Wow! It was a great trip. Marcia said she felt like a pack mule because I found agates and bought agates. Some of them on being shipped and won't be in Minnesota until fall, but we carried home as many as we could so you can see them at the show (and maybe before).

I see from the volunteer lists that I will be spending time on the phone filling the empty spots. You can expect a call if you haven't already signed up. As big as our show has gotten we need to get those empty spots taken care of.

The Club Board will be discussing what to do as a thank you for the show volunteers. If you have an opinion, please let me know. I have a couple of ideas, but we would like to do what YOU want.

I need to get back to the garage. My cut, polish, and pack pile for the show is high!



*Ed Opatz*

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