



Cuyuna Rock, Gem and Mineral Society

The Agate Explorer

March 2019

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.



Franklin Art Center

March meeting Open Shop from 9 a.m.—noon

Club member, Ray Strassberg, will be available for members to learn how to cut rocks using the 10" or 16" inch saws.

Bring rocks of your own or purchase something in the Rock Room.



Kids' Program

Did you know that there are many different kinds of Lake Superior agates? Lisa will tell you all about it at the March meeting!

Rock Wrappers

Meets starting at 10 a.m. on meeting Saturdays.

An open gathering for wire wrappers. 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

March 9—Meeting: Board Mtg. at 12:30; General Mtg. at 2:00; Mike Braun will demonstrate how to get a great polish using the Cab King safely.

April 13—Meeting

May 4—(note change of date) - Meeting

May 11 & 12—Show

July 5-7 (tentative) - field trip to Thunder Bay for amethyst

Information subject to change.



Club Information

Website-www.cuyunarockclub.org
Email-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.

Jewelry Making Tip

By Brad Smith
www.BradSmithJewelry.com

Mini Drill Press

If you find yourself drilling a number of small holes for your work, you might want to look at the small, inexpensive drill presses now available. They take up just minimal space on your bench and are always ready to give you nice straight holes. Some models even have a variable speed control. I've been very pleased with a low-priced one that's been well-used in my classes for over a year.

Because these machines are only a foot high, they're limited as to the size of workpieces that can fit into the machine and the size of the drill bits you can use. But I've had no problems with drill bits up to about 3/16" (4.5mm), even drilling steel.



The machines are sold by a number of companies. If you do get one, be sure to buy a spare belt because they are generally not available at local hardware stores.

Cuyuna Rock, Gem & Mineral Society General Meeting Minutes Saturday February 9, 2019

The meeting was called to order at 2:00 pm by Vice-President Sharon Smith.

28 members and 2 guests were present.

We will be updating all member information as well as require all members to sign a release form for shop equipment use and field trips. Marcia will be sending out a general email with this information on it once it is ready.

Sharon reviewed shop safety rules.

We remind all members that if you use a machine in the shop you must also cleanup after your self and know how to properly care for the equipment.

Joanie showed the membership her idea for a Mother's Day project at the show that kids can make for their moms. She will be asking for help to get these ready from anybody in the club that knows how to wire-bend. Prep will start on the next meeting day at 10 am.

Programs: Ed Walton and Ray Strassburg on Saws- How to use them, upkeep and cost.

Kid's program: Rock art- Lori DuBois

Door Prize winners: Mason Williams, Mark Jeppesen, Bryce Eggert, Kathee Stanwood.

Respectfully submitted,
Joanie Hanson, Secretary

Cuyuna Rock, Gem & Mineral Society Board Meeting Minutes Saturday February 9, 2019

The meeting was called to order at 12:00 pm by Vice-President Sharon Smith.

Present at the meeting were Secretary Joanie Hanson and Board Members-at-Large Lilly Peterson, Vern Iverson, and Lori DuBois. President Ed Opatz was present via phone.

A Motion was introduced to set the 2019 rock show budget at \$1500.00. The Motion was voted on and passed.

We will be talking to the owners of any marquee signs in the Brainerd Lakes area for advertising for the show.

Marcia is getting all the preliminary work done with the school packs. Joanie will get

them ready and have them at the club for distribution. Bev will distribute in the Aitkin areas but we will need help with other areas.

The rock show volunteer list is ready to go and is available at meetings. Ed and Joanie have copies. All members are hopefully going to help in some way at the show. The club email address is: cuyunarockgem-club@gmail.com if you want to email when you want to work. If you call Joanie please leave a message (218-831-2665).

Franklin Art Center was notified by the post office that they have to update mailboxes- this does not affect our address.

The Board is working on Hold-Harmless forms for members to sign that allows them to work on the equipment in the shop. There will also be sign up forms for field trips.

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

Coming Soon!

Small Botswana Agate

We will be asking all members to update their addresses, phone numbers and email addresses.

Our current club brochures have the wrong date for the show but we have decided to use them anyway due to cost of changing them. If you hand one out be sure to change the date on it.

A Motion was introduced to update and replace any worn out equipment parts for the shop saws and grinders. The Motion was voted on and passed.

The Board set the date for 2019 Kid's Camp on Friday & Saturday June 7 & 8. Marcia will add this to the school pack flyers for the show.

Respectfully Submitted,
Joanie Hanson, Secretary

Show Volunteer List

Sign up sheets are now available for the show on 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

Set up Display Cases (Friday):

Door Admission:

Sat. 9-noon Vern Iverson

Sat. noon-3

Sat. 1-5

Judy Frampton

Sun. 10-1

Judy Frampton

Sun. 1-4

Club Table:

Sat. 9-1 Joanie Hanson

Sat. 1-5

Sherry Busse

Sun. 10-1

Joanie Hanson

Sun. 1-4

Door Prizes/Vendor Survey:

Keith Lorensen

Rock Saws/Geode Cracker:

Sat.

Sun.

Ray Strassberg

Marge Strassberg

Wizard of Rocks:

Sat. 9-noon

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

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

Sun. 10-1

Sun. 1-4

Security—back gate:

Sat. 6-9

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

Sat. 1-5

Sandi Hilsgen

Sun. 10-1

Sun. 1-4

Judy Frampton

Spinning Wheel:

Sat. 9-noon

Sat. noon 3

Sat. 3-5

Sun. 10-1

Sun. 1-4

Show Tear Down:

Bev Williams, Erich Ess, Lilly Peterson, Joanie Hanson

Monday AM Clean Up:

Dolores & Tony Sibet

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.

Cuyuna Rock, Gem, & Mineral Society on the Web
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.



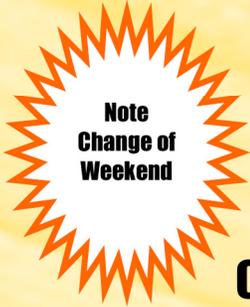
We're on Facebook!

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.

17th Annual

2019 Cuyuna Agate & Mineral Show



Note
Change of
Weekend

Saturday, May 11, 9-5

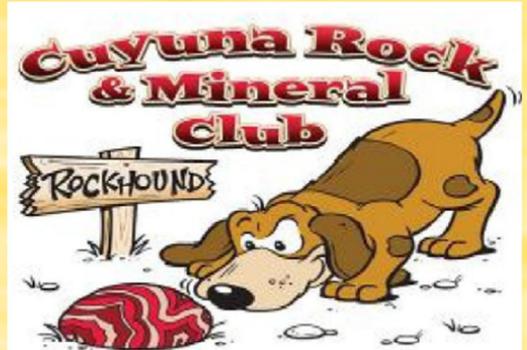
Sunday, May 12, 10-4

Rain or Shine

Crow Wing County Fairgrounds

2000 S.E. 13th St.

Brainerd, Minnesota



Featured
Vendor



The Gem Shop, Inc.

W64N723 Washington Ave
Cedarburg, WI 53012
www.thegemshop.com



Yooperlites

Erik Rintamaki

(906) 440-8712

www.yooperlites.com



Featured
Vendor

**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

Mineral Encyclopedia



Sphalerite

Sphalerite is a zinc sulfide mineral with a chemical composition of (Zn,Fe)S. It is found in metamorphic, igneous, and sedimentary rocks in many parts of the world. Sphalerite is the most commonly encountered zinc mineral and the world's most important ore of zinc.

Dozens of countries have mines that produce sphalerite. Recent top producers include Australia, Bolivia, Canada, China, India, Ireland, Kazakhstan, Mexico, Peru, and the United States. In the United States, sphalerite is produced in Alaska, Idaho, Missouri, and Tennessee.

The name sphalerite is from the Greek word "sphaleros" which means deceiving or treacherous. This name is in response to the many different appearances of sphalerite and because it can be challenging to identify in hand specimens. Names for sphalerite used in the past or by miners include "zinc blende," "blackjack," "steel jack," and "rosin jack."

Geologic Occurrence

Many minable deposits of sphalerite are found where hydrothermal activity or contact metamorphism has brought hot, acidic, zinc-bearing fluids in contact with carbonate rocks. There, sphalerite can be deposited in veins, fractures, and cavities, or it can form as mineralizations or replacements of its host rocks.

In these deposits, sphalerite is frequently associated with galena, dolomite, calcite, chalcocopyrite, pyrite, marcasite, and pyrrhotite. When weathered, the zinc often forms nearby occurrences of smithsonite or hemimorphite.

Chemical Composition

The chemical formula of sphalerite is (Zn,Fe)S. It is a zinc sulfide containing variable amounts of iron that substitutes for zinc in the mineral lattice. The iron content is normally less than 25% by weight. The amount of iron substitution that occurs depends upon iron availability and temperature, with higher temperatures favoring higher iron content.

Sphalerite often contains trace to minor amounts of cadmium, indium, germanium, or gallium. These rare elements are valuable and when abundant enough can be recovered as profitable byproducts. Minor amounts of manganese and arsenic can also be present in sphalerite.

Physical Properties

The appearance and properties of sphalerite are variable. It occurs in a variety of colors, and its luster ranges from nonmetallic to submetallic and resinous to adamantine. Occasionally it will be transparent with a vitreous luster. Sphalerite's streak is white to yellowish brown and sometimes is accompanied by a distinct odor of sulfur. Occasionally it streaks reddish brown.

One of the most distinctive properties of sphalerite is its cleavage. It has six directions of perfect cleavage with faces that exhibit a resinous to adamantine luster.

Specimens that display this distinctive cleavage are easy to identify. Unfortunately, many specimens have such a fine grain size that the cleavage is difficult to observe. Because sphalerite often forms in veins and cavities, excellent crystals are relatively common. Sphalerite is a member of the isometric crystal system, and cubes, octahedrons, tetrahedrons, and dodecahedrons are all encountered.

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

Physical Properties of Sphalerite

Chemical Classification Sulfide

Color Yellow, brown, black, red, green, white, colorless

Streak White to yellowish brown, often with an odor of sulfur

Luster Nonmetallic, submetallic, resinous or adamantine

Diaphaneity Transparent to translucent

Cleavage Perfect, dodecahedral, in six directions!

Mohs Hardness 3.5 to 4

Specific Gravity 3.9 to 4.1

Diagnostic Properties Luster, cleavage, streak

Chemical Composition Zinc sulfide with variable amounts of iron, (Zn,Fe)S

Crystal System Isometric

Uses The primary ore of zinc. Often mined for minor amounts of indium, cadmium, germanium, or gallium as profitable byproducts. Mineral specimens. Faceted stones for collectors.



Kids' Corner

Are there fossils in Minnesota?

Fossils may be found throughout the state of Minnesota, but are more common in certain areas. The oldest fossils in the state are found in the Precambrian iron formations in northeastern Minnesota. These primitive algae fossils are over two billion years old! They were one-celled organisms that lived in the shallow seas that covered much of Minnesota. More advanced, multi-celled animal fossils can be found in southeastern Minnesota, which was covered by a shallow sea that reached up from the Gulf of Mexico

during the Ordovician Period, 440 million years ago. Trilobites and cephalopods are examples of these multi-celled animals. During the Devonian Period (380 million years ago) southern Minnesota was once again covered by a sea, leaving fossils of fish and corals scattered throughout the area. Fossil snails, clams, oysters and shark teeth can be found in north central Minnesota dating to 100 million years ago (the Cretaceous Period).

Fossils of all ages can be found throughout



Minnesota's gravel pits, beaches and other glacial features. As glaciers slowly crawled south from Canada to cover almost the entire state, they picked up rock containing fossils. As the glaciers retreated north, the rock and debris were left behind in Minnesota.



<https://www.dnr.state.mn.us/education/geology/digging/fossils.html>
s glacial drift.

March Rock Shows

1-3—SHARONVILLE, OH: Gem Street USA; Sharonville Convention Center, Fri. & Sat. 10-6, Sun. 11-5; \$7 (good for all 3 days), under 12 free; contact Jane; Email: JaneStrieter1946@gmail.com

1-3—LARGO, FL: Suncoast Gem & Mineral Society (SGAMS); Minnreg Hall; Fri. & Sat. 10-6, Sun. 10-5; donation \$5, students \$4, under 6 free; Website: www.sgams.com

1-3—DEL MAR, CA: Gem Faire Inc; Del Mar Fairgrounds; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7; Website: <http://www.gemfaire.com>

1-3—RICHMOND, IN: Eastern Indiana Gem & Geological Society; Wayne County Fairgrounds; Fri. & Sat. 10-6, Sun. 11-4; \$5/ Srs \$3/ 7-18 \$1/Under 7 Free; Website: EIGGS.weebly.com

2-3—ISSAQUAH, WA: East King Co. Rock Club; Pickering Barn; Sat. 10-6, Sun. 10-5; free; Website: www.eastkingco.org

2-3—WILMINGTON, DE: Delaware Mineralogical Society, Inc.; DoubleTree by Hilton; Sat. 10-5, Sun. 11-5; \$6, \$5 for srs, 12-16 \$4, under 12 free; Website: www.delmin.society.net

2-3—CALDWELL, ID: Owyhee Gem & Mineral Society; O'Connor Field House, Sat. 10-6, Sun. 10-5; \$4, under 12 free; Website: www.Oyheerocks.com

2-3—VENTURA, CA: Ventura Gem & Mineral Society; Ventura County Fairgrounds; Sat. 10-5, Sun. 10-4; free; Website: www.vgms.org

2-3—BIG SPRING, TX: Big Spring Prospectors Club; Howard County Fair Grounds; Daily Sat. 9-5, Sun. 10-5; free; contact Lola Lamb, Email: lolabelle.lamb@yahoo.com

2-3—MESA, AZ: Apache Junction Rock & Gem Clut; Skyline High School, Sat. 9-5, Sun. 10-4; \$3, students \$1; under 12 free; Email: Apachejrgc@ajrockclub.com

2-3—ROBSTOWN, TX: Gulf Coast Gem & Mineral Society; Richard M Borchard Fairgrounds; Sat. 10-6, Sun. 10-5; \$6, under 12 free; Website: www.gcgms.org

7-10—DEMING, NM: Deming Gem & Mineral Society, Inc.; SWNM State Fairgrounds; Daily 9-5; Free; Website: thedgmsclub.com

8-9—COLVILLE, WA: Panorama Gem & Mineral Club; Colville Fair Grounds, Fri. 8:30-6, Sat. 9-5; free; contact Johnnie Pittman, (509) 684-8887

8-10—BEREA, OH: GemStreet USA; Cuyahoga County Fairgrounds, Fri. & Sat. 10-6, Sun. 11-5; \$7, under 12 free, Website: GemstreetUSA.com

8-10—PLEASANTON, CA: Gem Faire Inc; Alameda County Fairgrounds, Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7; Website: <http://www.gemfaire.com>

8-10—KANSAS CITY, MO: Greater Kansas City Association of Earth Science Clubs; KCI Expo Center, Fri. 10-8, Sat. 10-7, Sun. 10-5; \$6, ages 5-12; \$3, under 4 free; Website: www.kcgemshow.org or www.gemshowkc.org

8-10—POMONA, CA: Pasadena Lapidary Society hosting California Federation of Mineral Societies; Fri. & Sat. 10-5, Sun. 10-4; \$5, teens, srs. \$4; under 12 free; Website: www.pasadenalapidary.org

8-10—VICTORVILLE, CA: Victor Valley Gem & Mineral Club; Stoddard Wells; daily 9-5; free; Website: vvgmc.org

8-10—FOREST GROVE, OR: Tualatin Valley Gem Club; Forest Grove National Guard Amory; Daily 10-5; \$1, under 13 free; Website: www.tvrgc.org

8-10—COTTONWOOD, AZ: Karmic Beads & Gems; Verde Valley Fairgrounds; Fri. & Sat. 10-6, Sun. 10-4; free; Website: karmicbeadsandgems.rocks

9—SKOKIE, IL: Chicago Rocks & Minerals Society silent auction; St. Peter's United Church of Christ; Sat. 6-9; free; Website: www.chicagorocks.org

9-10—FILER, ID: Magic Valley Gem Club; Twin Falls County Fairground; Sat. 9-5, Sun. 10-4; \$2, under 12 free; Email: rmetts@magicvalleygemclub.org

9-10—WEST BEND, WI: Kettle Moraine Geological Society; Washington County Fair Park & Convention Centre; Sat. 10-5, Sun. 10-4; \$3, under 12 free; Website: kmgrocks.com

9-10—TURLOCK, CA: Mother Lode Mineral Society of CA; Stanislaus Fairgrounds; Daily 10-5; \$6, under 13 free; Website: <http://turlockgemshow.com/>

9-10—KLAMATH FALLS, OR: Rock & Arrowhead Club of Klamath Falls; Klamath County Fairgrounds; Sat. 9-5, Sun. 10-4; \$2 donation; Email: kristinsayles@hotmail.com

9-10—SAN FRANCISCO, CA: Pacific Crystal Guild; San Francisco County Fair Building; Sat. 10-6, Sun. 10-4; \$12, under 12 free; Website: <http://www.crystal.fair.com>

9-10—KALISPELL, MT: Gold, Gem & Mineral Show; Northwest Montana Rock Chucks; Flathead County Fairgrounds; Sat. 9-6, Sun. 10-5; \$2, under 13 free; Email: oldgrayelf@sbcglobal.net

9-10—SAN ANTONIO, TX: Southwest Gem & Mineral Society; San Antonio Event Center; Sat. 10-6, Sun. 10-4; \$5, srs. \$3, students \$2, under 12 \$1; Website: swgms.org

9-10—SEATTLE, WA: North Seattle Lapidary & Mineral Club; Crown Hill Center; Daily 10-5; free; Website: www.NorthSeattleRockClub.org

15-17—JACKSON, MI: Michigan Gem & Mineral Society; Jackson County Fairgrounds; Fri. 10-7, Sat. 10-6, Sun. 11-5; \$4, Srs \$2, Students \$1, under 6 free; Website: <http://www.mgmsrockclub.com>

15-17—ALBUQUERQUE, NM: Abq. Gem & Mineral Club; Expo NM State Fairgrounds; Fri. & Sat. 10-6, Sun. 10-5; \$3, under 13 free; Email: jaypenn246@gmail.com

15-17—RENO, NV: Gem Faire Inc; Reno-Sparks Livestock Events Center, Fri. 12-6, Sat. 10-6, Sun. 10-5; \$5 weekend pass; Website: <http://www.gemfaire.com>

15-17—SPANISH FORK, UT: Parade of Gems Annual Rock, Gem and Mineral Show; Timpanogos Gem and Mineral Society; Spanish Fork Fairground, 475 South Main St; Fri. 10-7, Sat. 10-7, Sun. 10-5; free; find examples of faceting, amethysts, minerals, jewelry, wire wrapping, rough, petrified wood, fossils, gems, lapidary equipment and supplies, black light display, and activities for children; contact Keith Fackrell, (801) 592-0410; Email: krfackrell@gmail.com; Website: timprocks.weebly.com

15-17—ARDEN, NC: MAGMA Mountain Area Gem & Mineral Assoc.; Camp Stephens; Fri. & Sat. 9-6, Sun. 10-4; free; Website: www.americanrockhound.com

16-17—SAN JOSE, CA: Santa Clara Valley Gem & Mineral Society; Santa Clara County Fairgrounds; Daily 10-5; \$6, under 13 free; Website: www.scvgms.org

16-17—MISSOULA, MT: Hellgate Mineral Society; Hilton Garden Inn; Sat. 9-6, Sun. 10-5; \$2; under 14 free; Email: attitoodz@yahoo.com

16-17—DOTHAN, AL: Dothan Gem & Mineral Club; Houston County Farm Center; Sat. 9-5, Sun. 10-4; free; Email: arlambert@comcast.net

16-17—LEMOORE, CA: Lemoore Gem & Mineral Club; Trinity Hall; Sat. 10-6, Sun. 10-4; free; Website: <https://lemooregemandmineralclub.wordpress.com>

16-17—VANCOUVER, BC: Hastings Centre Rockhounds; Hastings Community Centre; Daily 10-5; Donation; Website: <http://www.hastingscentrerockhounds.com>

16-17—ANTHEM, AZ: Daisy Mountain Rock & Mineral Club; Boulder Creek High School; Sat. 9-5, Sun. 10-4; \$4, srs./students \$2, under 12 free; Website: Daisy Mountain Rock and Mineral Club

22-24—SANDY, UT: Gem Faire Inc; Mountain America Expo Center; Fri. & Sat. 10-6, Sun. 10-5; \$7 weekend pass; Website:

<http://www.gemfaire.com>
 22-24—HICKORY, NC: Catawba Valley Gem & Mineral Club, Inc.; Hickory Metro Convention Center; Fri. & Sat. 9-6, Sun. 10-5; \$5, under 12 free; Website: www.cvgmc.com
 22-24—LEXINGTON, KY: Blue Grass Gem & Mineral Club; Clarion Hotel; Fri. 4-8, Sat. 9-6, Sun. 11-5; \$2, child \$1; Website: www.bggamc.homestead.com
 22-24—MARIETTA, GA: Bellpoint Gem Show; Cobb Civic Center; Daily Fri. 10-6; \$5, under 15 free; Website: www.bellpointpromotions.com
 22-24—LOVELAND, CO: Fort Collins Rockhounds, Inc.; Larimer County Fairgrounds; Fri. 4-8, Sat. 9-6, Sun. 10-5; \$4, ages 12-18 \$1, under 12 free; Website: www.fortcollinsrockhounds.org
 23-24—ROSEVILLE, CA: Roseville Rock Rollers Gem & Mineral Society; Placer County Fairgrounds; Sat. 10-5, Sun. 10-4; Website: www.rockrollers.com/show.html
 23-24—WYSOX, PA: Che-Hanna Rock & Mineral Club; Wysox Vol. Fire Co. Social Hall; Sat. 9-5, Sun. 10-4; \$3, students \$1, under 8 free; Website: chehannarocks.com
 23-24—HADLEY, MA: Connecticut Valley Mineral Club / Western Mass. Mineral, Jewelry & Fossil Show; Hadley Farms Meeting House; Sat. 9:30-5, Sun. 10-4; \$5, under 13 free; Website: www.cvmineralclub.org
 23-24—ANGELS CAMP, CA: Calaveras

Gem & Mineral Society; Calaveras County Fairgrounds; Sat. 10-5, Sun. 10-4; \$5, under 12 free; Website: calaverasgemandmineral.org
 23-24—CEDAR RAPIDS, IA: Cedar Valley Rocks & Minerals Society; Hawkeye Downs Expo Center; Sat. 8:30-6, Sun. 9:30-4; \$3, students \$1, under 12 free; Website: cedarvalleyrockclub.org
 23-24—JANESVILLE, WI: Badger Lapidary & Geological Society; Rock County Fairgrounds / Craig Center; Sat. 9-5, Sun. 9-4; free; Website: <https://www.badgerrockclub.org/>
 23-24—WHEATON, IL: Earth Science Club of Northern Illinois (ESCONI); DuPage County Fairgrounds; Sat. 10-5, Sun. 10-4; free; Website: www.esconi.org
 29-30—ADA, OK: Ada Gem Mineral & Fossil Club; Pontotoc County Agriplex; Fri. 8-6, Sat. 9-5; free; Email: bfreeman.1966@yahoo.com
 29-31—SPOKANE, WA: Rock Rollers of Spokane, WA; Spokane County Fair & Event Center; Fri. & Sat. 10-6, Sun. 10-4; \$6, srs., under 13 free; Website: www.rockrollers.org
 29-31—PUYALLUP, WA: Gem Faire Inc; Washington State Fair Events Center; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7 weekend pass; Website: <http://www.gemfaire.com>
 29-31—RALEIGH, NC: Tar Heel Gem & Mineral Club; State Fairgrounds; Fri. 3-8, Sat. 10-6, Sun. 10-5; free; Website: tar-

heelclub.org
 30-31—CANTON, OH: Stark County Gem & Mineral Club; Stark County Fairgrounds; Sat. 9-5, Sun. 10-5; \$5, srs. \$4, ages 6-14 \$1; under 6 free; Website: <https://www.facebook.com/SCOGMC/>
 30-31—SWEET HOME, OR: Sweet Home Rock & Mineral Society; Sweet Home High School Gym; Sat. 10-6, Sun. 10-5; \$0.50, under 13 free; Email: ela4rocks@gmail.com
 30-31—BELLINGHAM, WA: Mt. Baker Rock & Gem Club; Bloedel-Donovan Park; Sat. 10-6, Sun. 10-5; free; contact Dick Carr; Email: rjcarr@juno.com
 30-31—PLYMOUTH MEETING, PA: The Philadelphia Mineralogical Society & The Delaware Valley Paleontological Society; Lu Lu Temple; Sat. 10-5, Sun. 10-4; \$5, under 12 free; Website: www.philamineralclub.org
 30-31—MIDLAND PARK, NJ: The North Jersey Mineralogical Society; Midland Park High School; Sat. 10-5, Sun. 10-4; \$5, srs. \$4, under 12 free; Website: www.nojms.webs.com
 30-31—POCATELLO, ID: Southeast Idaho Gem & Mineral; Bannock County Fairgrounds; Daily 10-5; \$2 adults, under 12 free; Email: mlarry13@msn.com
 30-31—FORT DODGE, IA: River Valley Rockhounds, Inc.; Webster County Fairgrounds; Sat. 9:30-5, Sun. 11-4; \$1, under 13 free; Website: <http://www.amfed.org/mwf/states/Iowa/RiverValley.html>

New Dino Found with Spines

A new dinosaur species, notable for a row of two-foot spines protruding from its neck, has been discovered by scientists in Argentina.

Scientists have dubbed the new dinosaur, "Bajadasaurus," an herbivore that lived 140 million years ago, according to the scientific journal Nature, which first revealed the findings. Its name is an amalgam of Spanish, Greek, and Latin, meaning "lizard from Bajada with forward-bending spines."

The dinosaur's unusual "spines" have fueled a wave of speculation about what purpose they may have served. Pablo Gallina,



spines," were likely used to "deter possible predators." Had it not been for the sharp spines, Gallina said, the dinosaur's structure "could have been easily broken or fractured with a blow or when being attacked by other animals."

<https://www.foxnews.com/science/new-dinosaur-species-with-spiky-backbone-discovered-in-argentina-report>

a paleontologist who first came across a set of its teeth in 2010, said the "long and sharp

discovered-in-argentina-report

Rox Box

A place to advertise rock items to sell and to inquire about items to purchase.



The Cuyuna Rock, Gem & Society accepts no responsibility for any dissatisfaction that may occur by either party, seller or buyer. The Society does not profit in any way by sales transactions.

For Sale: Grinder/polisher with 8" saw. The Club is selling this piece of equipment. \$300 to a Club member. Contact Treasurer, Kevin Martini, at 218-770-8917 kjspumanti@yahoo.com.



For Sale: Grinder/polisher with 10" saw. Comes with stand. The Club is selling this piece of equipment. \$350 to a Club member. Contact Treasurer, Kevin Martini, at 218-770-8917 or kjspumanti@yahoo.com.



Polka Dot Agate



The Polka Dot beds of Oregon are a feed site owned by West Coast Mining that is usually open in the summer, from

Memorial Day to Labor Day. You can dig your own material or purchase pre-dug agates by the pound. At the mine, we met Dale Hewitt, the owner of West Coast Gems and proprietor of the Polka Dot agate mine. The mine is on a hill above a picturesque canyon—a really beautiful location for one of the more unusual and interesting agates from the area.

The Polka Dot agate deposit has been producing fine agate for a long time and is still going strong. For centuries, Native Americans mined the deposit, using the hard agate and jasper for tool making. Artifacts made from this distinctive agate have been

found as far away as Colorado.

Polka Dot agate is an orbicular variety. The agate is dotted with variously colored orbs, floating in a base of agate or jasper that ranges from white to blue in color. Translucency varies from piece to piece and the dots can be black, brown, red and yellow, although an orange-brown seems to predominate in the orb department. The dots are sometimes hard edged, while some are kind of fuzzy-edged, like little floating snowballs.

There is all kinds of crazy stuff going on in this agate. When the agate gets to be a deeper blue, it is known as "blue ice". Some of the agate has opaque, reddish-brown jasper running through the translucent sections. Polka Dot agate has lots of variety in the patterns, and all the interesting details are often found right alongside each other.

<http://www.rockngem.com/polka-dot-agate/>

Precious or Semi-Precious Gemstones



Emerald is the green gemstone form of the mineral beryl. It has a chemical formula of $(\text{Be}_3\text{Al}_2(\text{SiO}_3)_6)$. Emerald displays a hexagonal crystal structure. It is very hard, with a rating of 7.5 to 8 on the Mohs scale.

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

Types of Opals

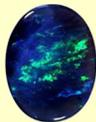


Natural Opals

Natural opals are those which have not been treated or added to in any way by mankind, other than by

cutting and polishing. Natural opals are usually described as light, dark/black, boulder, and matrix. Although boulder opal has an ironstone backing, it is regarded as a solid natural opal because this backing occurs naturally. The variety of natural opal is determined by the two characteristics of body tone and transparency.

Body Tone - The base tones of light, dark and black opal range from colorless, white, through the various shades of grey, to black. **Transparency** - Opal of any body color will be opaque, translucent or transparent. When it is transparent or very translucent, and the color clarity is sharp, it is often referred to as crystal opal.



Black/Dark Opal

Black Opal is the most valued of Opals and comes mainly from Lightning Ridge. High quality stones are very rare. Easily distinguished by the blackness of the background "body tone" or body color.

Black/dark opal shows a play of color within or on a dark body tone, while the play of color of a black opal is within or on a black body tone, when viewed from the face up. It

can be crystal or opaque.

Some black/dark opals have a light crystal color bar on dark opal patch (colorless opal), giving the otherwise light opal a dark appearance. Even expensive black/dark opals may have only a very thin color bar on black patch.

Most black/dark opal is found in the mines around Lightning Ridge, NSW. Because of its relative scarcity compared to light and even boulder opal, it tends to be more expensive, given equivalent colors, clarity and patterns.



Black/dark opal exhibiting bright flashes of red is extremely rare.

Light/White Opal

Natural opals with a base tone ranging from colorless to medium grey are called light opal. Some people refer to these as "white" although this expression should only be used where the body color is very milky.

Light opal makes up the bulk of precious opal. White Opal may be transparent through to nearly opaque, although it usually has a "milky" appearance and has a light body tone or white body color.

Mainly mined at Coober Pedy and Mintabie, (South Australia) although the first deposits were found at White Cliffs (NSW).



Boulder Opal

Boulder is a variety of precious

opal that has the host rock forming naturally as part of the gem. Often just a thin vein of precious opal is present. It mainly occurs in specific locations over a wide area of Western Queensland. Boulder opal occurs as in-fillings of cracks or voids usually in ironstone boulders. Boulder opal can be black or light depending on the appearance of the stone when viewed from the surface.

The popularity of this type has soared since the mid 1970s. Boulder opals are invariably cut incorporating the host brown ironstone; they are in high demand and can be extremely valuable. A variety of boulder opal also occurs in Andamooka, South Australia, where the host rock is quartzite. These are called "painted ladies", but are normally only suitable as specimens.

Matrix Opal

The term matrix opal is commonly used where the opal is intimately diffused as infillings of pores or holes between grains of the host rock in which it was formed. Boulder matrix opal is found in Queensland and can be distinguished by the ironstone host rock. Andamooka matrix opal is a porous material from Andamooka, South Australia, which is often treated to enhance the color by depositing black carbon by chemical treatment in the pore spaces in the stone.



<https://www.nationalopal.com/opals/types-of-opal.html>

Warning! Rock Pox Very contagious

Symptoms—Continual complaint as to need for fresh air, sunshine, and relaxation. Patient has blank expression, sometimes inattentive to rest of family. Has no taste for work of any kind. Frequent checking of dealers' catalogs, and lapidary and mineral shops longer than usual. Secret phone calls to rock pals. Mumbles to self. Lies to rival collectors. Only one cure.

Treatment—Medication is useless. Disease is not fatal. Victim should go hunting as often as possible at beach, mountain, or desert hunting grounds.

Note—If both father and mother both get it, they just as well sell the home and buy a camper.

1940's rockhound magazine



The World of Jaspers Cave Creek

Cave Creek Jasper is pretty dark red jasper from Cave Creek, Arizona. At one time this jasper was plentiful, scattered on top of the land and easy to pick up. Now many areas have been picked clean and others are behind No Trespassing signs. But there is still material to be found if one is willing to look for it.

<https://www.oakrocks.net/cave-creek-jasper/>

Dangers of Rock Dust

<https://www.gemcutters.org/LDA/RockDustDangers.htm>

Many collectors use a mechanical rock saw to cut, trim, or abrade rocks and fossils in the field or lab. Dangers of this activity include flying rock chips, wounds from the blade itself or broken blades, and rock dust, which is extremely dangerous to inhale. Always read and understand the proper operation of any mechanical tool before using it. Whenever cutting or grinding rock, wear protective eye goggles. Also wear a good respirator, or use a dust collection system, to avoid inhaling rock dust, which accumulates in the lungs and can cause a variety of serious illnesses.



other microbe at the quarry, or just had accumulated too much dust in my lungs. An x-ray was clear, but that is not unusual in such cases (it sometimes takes years for fibrosis, TB, cancer, and other diseases to develop). Apparently the rock dust itself is the cause the current lung irritation, and it may never get better.

For those not convinced that rock dust is a serious danger, or that they can get away with not wearing a respirator or working under a hood (if working indoors), I encourage you to read the message below.

About a year ago our fossil club went to Ontario to collect trilobites, and we took along a diamond rock saw. I only sawed out a few trilobites for fellow members (without wearing a mask; I forgot to bring one) and I tried to not inhale the dust. However, large clouds of it were kicked up each time, and it was impossible to avoid inhaling quite a bit of it. My the next morning I had significant lung irritation, and have had it ever since -- some days worse than others. I have frequent coughing and uncomfortable sensation in my upper chest. After this went on a few weeks, I went to a doctor, not knowing if I had contracted a bacteria, fungus, or

It turns out that not only do rock particles of any composition tend to stay and accumulate in the lungs, but FRESHLY CUT rock is the worst, and extremely pernicious. Even one or a few incidents of significant inhalation of such dust can cause lung irritation and a start process of increasingly serious lung damage. The microscopic particles are like millions of razor-edged shards that damage lung tissue directly, as well as create conditions promoting the development of TB, mycoplasmas, fibrosis, and cancer. Experiments with rats and other animals have shown that inhalation of fresh cut rock dust is far more damaging than worn rock dust of any composition, and leads to far greater rates of several diseases, including pulmonary fibrosis and lung cancer. (But even accumulations of worn rock dust in the lungs greatly increased chances of lung diseases).

So PLEASE, whenever you are cutting or grinding rock of any kind, ALWAYS wear a respirator (not just a cheap dust mask). If working indoors, use a dust collecting hood, or don't do it. Your health is not worth any rock or fossil.



March birthdays

| | |
|---------------|------|
| Sara Lucken | 3/4 |
| Joanie Hanson | 3/17 |

Did You Know?

Three main groups of minerals are identified on the basis of the Property of color: idiochromatic, allochromatic, and pseudochromatic.

Idiochromatic minerals are "self colored" due to their composition. The color is a constant & predictable component of the mineral. Examples are

blue Azurite, red Cinnabar, and green Malachite.

Allochromatic minerals are "other colored" due to trace impurities in their composition or defects in their structure. In this case, the color is a variable and unpredictable property of the mineral. Examples are the blue in Amazonite (orthoclase), yellow in Heliodor (spodumene) and the rose in rose quartz.

Pseudochromatic minerals are "false colored" due to tricks in light diffraction. In these cases, color is variable but a unique property of the mineral. Examples are the colors produced by precious opal and the shiller reflections of labradorite.

<http://www.geologyin.com/2017/02/14-facts-you-should-know-about-minerals.html>

Marcia Opatz, Editor
Cuyuna Rock, Gem
& Mineral Society
1001 Kingwood Street
Suite B-40
Brainerd, MN 56401

FIRST CLASS MAIL



The Agate Explorer

March 2019

Official Publication of the Cuyuna Rock,
Gem & Mineral Society



Members of AFMS & MWF

Notes from the President

The more I learn about rocks and minerals the more I realize I don't know. I have looked for Lake Superior Agates since I was a little boy, but it wasn't until the last 10 years or so that I broadened my horizons to other kinds of agates and rocks. Agates are still my favorite, but I have learned a lot more about jaspers and minerals, and geology in general.

What kinds of geology stuff do you want to know more about? Let us know and we will try to find a speaker on that topic.

Marcia and I have been collecting new rock treasures in the last week or so. We'll have some new, cool stuff to show you when we get back to Minnesota.

Did you know that we will be having sluicing at our spring show? That should be a lot of fun for kids and adults. We think there will be a lot of interest, so that means we need more help for this new activity. Maybe you would like to sign up to help with that?

I would think that members who have signed up to help with our show, for the most part, think that it is fun. You don't want to miss out on that, do you?

Does anyone happen to be going to/near Beaver Bay in the next month or so? Please call me if you are going and can pick up some rocks for me.



Ed Opatz

Club Officers & Board of Directors

cuyunarockgemclub@gmail.com

President: Ed Opatz
opatz1@att.net
320-250-1363

Vice-President: Sharon Smith
sharon@agatesrock.com
218-343-7037

Secretary—Joanie Hanson
secretarycuyunarockgemclub@outlook.com
218-831-2665

Treasurer: Kevin Martini
treasurer@cuyunarockclub.org
kjspumanti69@gmail.com
218-770-8917

Director: Lori DuBois
Director: Vern Iverson
Director: Lilly Peterson

Newsletter Editor: Marcia Opatz
theisma@hotmail.com
320-250-8120