

The Agate Explorer

August 2018



Potluck Picnic

Sunday, July 29th Meal at noon Hallett House, 22418 MN Hwy., Crosby

Bring a lawn chair and a dish to share. Meat and some beverages provided.

If you plan to attend, please R.V.S.P. to Joanie Hanson at 218-831-2665 with number of people.

Get Pickin Thank You Event

As a thank you to all 2018 show volunteers (members and non-members) we will gather at Get Pickin' (3749 Hwy 33 N, Cloquet MN 55720) at 9 a.m. on Sunday, August 12. The Club will pay the entrance fee for all those who volunteered at the show. All others pay the fee of \$10 to pick.

Please sign up by calling/texting Joanie Hanson at 218-831-2665.





Utah Trip

Plans are underway for the early October trip to Utah. If you are interested in going to look for septarians, petrified wood, wonderstone,

topaz, & Picasso marble, and possibly Dug way geodes, please get your name on the list. Those who hope to attend can have input as to what is planned.

Call Ed Opatz at 320-250-1363 (no texting) or email opatz1@att.net.

Lost!

The ratchet for the new geode cracker has been missing since the show at the fairgrounds. If you remember seeing it, or packing it on the Sunday night of the show, please contact
Ed Opatz at 320-250-1363.

Club Calendar

July 29—Potluck Picnic, Hallett House, Crosby; eat at noon

July 31-August 4—Crow Wing County Fair

August 8—Franklin 10th Anniversary

August 12—Get Pickin' field trip

August 18—Outing Corn Feed



Information subject to change.



Franklin Art Center

Club Information

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 semiprecious 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.

Free Rock I.D. Event

Do you have a favorite rock that you've always struggled to identify? You are not alone. Many of us have found attractive or unique-looking rocks that we're just not quite sure about.

Well, the Minnesota Mineral Club can help. Our Program Director, Keith Zilinski, has organized a free Rock Identification event!

This will be held at the Plymouth, MN Library on Saturday, August 4th, from 1 PM to 3 PM.

The Library is located at 15700 36th Ave. North, Plymouth, MN 55446. Here is a link to the Library's website and map/directions:

https://www.hclib.org/about/locations/plymouth

On hand we will have a geologist and several other people skilled in rock identification to help evaluate your rocks. Note that we are there to identify your rocks and not to put a monetary value on them. This Rock ID Event is open to all and is free of charge. There are a few ground rules we hope people will respect: First, we have a room capacity limit so please understand if you are asked to wait at the entrance until someone leaves the room.

Second, so that as many people as possible are able to have their rocks identified, we must request that each person or family bring no more than 5 rocks.

Third, the rocks you bring should be small enough to carry and lift onto a table.

We hope you can join us for a fun and informative time getting answers about your puzzling or mysterious rock treas-



August Birthdays
Katie Hanson 8/13
August Anniversaries
Marcia & Ed Opatz 8/18

Jewelry Making Tip

By Brad Smith www.BradSmithJewelry.com

Identifying Unmarked Solders

There are plenty of ways to mark your sheet or wire solders, but suppose you forgot to mark them and have a couple that you can't identify. The answer is to compare the melting temperature of the unknowns with that of a known solder. What I do is take a thick scrap of copper or nickel

and arrange several solders on it. Ideally, I would have a sample of easy, medium and hard known solders surrounding the unknown solder. Then I heat the plate from the bottom and watch the order in which the solders melt.



The World of Jaspers Rain Forest Jasper

Rain Forest Jasper came from a molten flow of magma from the now extinct Mount Hay volcano near Queensland, Australia about 120 million years ago. The thick Rhyolitic magma that escaped from deep within the volcano was heavier and settled down through the lighter magma. As it settled towards the bottom of the mix it cooled slower, allowing the formation of spherical and phenocryst crystalline structures to form together. The final result of this unique occurrence is a Rhyolite that contains quartz and feldspar orbs or nodules. This same process also caused gas bubbles to form which when cooled, maintained their shape. These are known as "Thunder eggs", another favorite of collectors. This stone was first presented in



1986 and has grown in popularity since it's introduction to the market.

Rain Forest Jasper got it's name from the striking colors of green,

red, brown, yellow, creams and oranges, reminiscent of a scene in a rain forest. Although this stone has no association with a rain forest other than its common name, Rain Forest Jasper sounds better than Spherulitic Rhyolite. Other names for this unique mineral are Rain Forest Rhyolite, Spherulitic Rhyolite, Orbicular Jasper and Marine Agate.

www.spiritrockshop,com/ Kambaba Jasper.html

Crow Wing County Fair Volunteer List

The booth at the Fair has Club information, the spinning wheel, geode cracker and a rock and mineral display. Please contact Joanie Hanson to sign up: 218-831-2665 (PLEASE leave message) or jkh2upnorth@msn.com

Tuesday, July 31	
10 a.m.—1 p.m.	Bev Williams
&	
1 p.m.—5 p.m.	
&	
5 p.m.—10 p.m.	
&	
Wednesday, Aug	ust 1
10 a.m.—1 p.m.	Keith Lorensen
•	Bev Williams (if needed
&	·
1 p.m.—5 p.m.	

&	
Thursday, Augus	st 2
10 a.m.—1 p.m.	Bev Williams (if needed)
&	
1 p.m.—5 p.m.	Sandi Hilsgen
Sherry Busse &	_
5 p.m.—10 p.m.	
&	
Friday, August 3	
10 a.m.—1 p.m.	Lisa Hughes
& &	Elsa Hagnes
a	
1 p.m.—5 p.m.	
. т. р.н з р.н &	
5 p.m.—10 p.m.	
<u> </u>	
Saturday, August	
10 a.m.—1 p.m.	Ed Walton
&	
1 p.m.—5 p.m.	Lisa Hughes
	S
5 p.m.—10 p.m.	Lisa Hughes
+clean up	Č
· &	

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: Large sphere machine; large and small sets of three cups; includes a number of abrasive pads. Peter Kovach, 612-868-949 or pjkovach@comcast.net



For Sale: Sterling silver and 14 kt gold -filled wire for sale, by the foot. Selling at 60% of retail prices. All wire was purchased from a reputable dealer when

I was wire-wrapping. Will bring to picnic or call JoAnn Moe, for details @ 602-689-4319.



In the ancient times, Arabs and Persians set agate on their finger rings. These agates carried carvings of Koran verse or some symbolic figure, which the people believed would save them from hazards.

Mineral Encyclopedia

Fuchsite



Fuchsite is a green variety of muscovite mica. It differs from most other muscovite by having a variable amount of trivalent chromium substituting for aluminum within the mineral. Chromium is the source of fuchsite's green color.

Muscovite begins to take on a very light green color with the substitution of a small amount of chromium for aluminum. As the amount of chromium increases, the green color becomes stronger and ranges to a rich emerald green when abundant chromium is present. The chemical formulae of muscovite and fuchsite are shown in the table. Fuchsite is found in phyllites and ischists in metamorphic rocks of the greenschist facies. In most instances it occurs as tiny grains scattered through the rock mass, but occasionally rocks composed almost entirely of fuchsite are found. These green fuchsite-rich rocks are known as "verdite."

Fuchsite and Verdite as Gem Materials

Verdite is usually soft and fragile; however, some competent specimens can be cut into cabochons and polished to a very high luster. Some people who cut verdite stabilize it for cutting by gluing it to a backing. Thin

slices of black obsidian, basalt, or another black material are often used as backing. Verdite is typically a foliated rock, with the mica grains oriented with their flat faces perpendicular to the direction of compression. The most attractive orientation of verdite when cutting cabochons is with the mica flakes aligned parallel to the bottom of the cab. Then, when the dome on the cabochon is cut and polished, the mica flakes reflect light and produce a green aventurescence.

Green Aventurine

Sometimes small platelets of fuchsite or other green micas are suspended in quartz to produce the gem known as green aventurine. It has become a very popular and typically inexpensive gem material that is cut into cabochons, beads, and small sculptures. It is also very popular as tumbled stones. Green aventurine is much more frequently seen as a gem material than verdite, fuchsite, and ruby in fuchsite combined.

What is "Ruby in Fuchsite"?

Occasionally, corundum crystals are found in fuchsite. When these corundum crystals are of a bright red color, the material is known as ruby in fuchsite. This material attracts a lot of attention at rock, mineral, gem, and lapidary shows because of the contrasting colors of the fuchsite and ruby, and because the corundum crystals often exhibit spectacular hexagonal shapes when cut in slabs, cabochons, spheres, and other objects.

Identification Problems?

If spelling and pronunciation problems were not enough, ruby in fuchsite is one of the most commonly misidentified gem materials. If you visit lapidary shows and online

auctions, you will probably see ruby in fuchsite more often presented incorrectly as "ruby in zoisite" than as "ruby in fuchsite." This identification problem can easily be solved if a person learns the three facts below and uses them for identification.

- 1) Fuchsite has a hardness of 2 to 3, while zoisite has a hardness of at least 6.
- 2) Rubies have blue kyanite alteration rims in fuchsite but no alteration rims in zoisite. See the cabochon photos.
- 3) Ruby in zoisite is usually marked with a scattering of black hornblende crystals. The next time you are at a rock, gem, or mineral show, watch for green and red cabochons or carvings. If you see blue alteration rims, it is probably ruby in fuchsite.

https://geology.com/minerals/

Physical Properties of Fuchsite

Chemical Classification Silicate
Color Light green to emerald green depending upon chromium content
Streak White, often sheds tiny green
flakes
Luster Pearly to vitreous
Diaphaneity Transparent to translucent
Cleavage Perfect
Mohs Hardness 2 to 3
Specific Gravity 2.8 to 2.9

Diagnostic PropertiesCleavage, color, transparency

Chemical Composition K(Al,Cr)2 (Si3AlO10)(OH)2

Crystal System Monoclinic
Uses Fuchsite of good purity is not abundant enough to support manufactured products. The primary use is as a gem material, especially ruby in fuchsite for cabochons, spheres, and small utility objects that will not be subjected to impact or wear.

August Rock Shows

3-5—NIPOMO, CA: Orcutt Mineral Society; Nipomo High School, Fri. & Sat. 10-5, Sun. 10-4; free; Website: www.oms inc.org 3-5—PRESCOTT VALLEY, AZ: Prescott Center, Fri. & Sat. 9-5, Sun. 9-4; \$5, Srs/ Students \$4, Under 12 free; Website: www.prescottgemmineral.org 3-5—PLEASANTON, CA: Gem Faire Inc.; Alameda County Fairgrounds, Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7, Under 12 free; Website: www.gemfaire.com 3-5—NORTH BEND, OR: Far West Lapidary; North Bend Community Center, Fri. & Sat. 10-5, Sun. 10-4; \$1, Under 12 free; Email: doninnes.innes20@gmail.com 4—ISHPEMING, MI: Ishpeming Rock & Mineral Club: Ishpeming Elks Club. Sat. 9:30-4:30; Free; Website: www.ishpeming rocks.org 4-5—DARRINGTON, WA: Darrington

Rock & Gem Club; Mansford Grange, Daily 10-5; Free; Email: littleexplorers@juno.com

4-5—SAN FRANCISCO, CA: San Francisco Gem & Mineral Society; San Francisco County Fair Bldg (Hall of Flowers), Sat. 10 -6, Sun. 10-5; \$10; Website: www.sfgem show.org

4-5—WALNUT CREEK, CA: Pacific Crystal Guild; Civic Park Community Center, Sat. 10-6, Sun. 10-4; \$12, Under 12 free; rocks, minerals, gems, jewelry, Website: www.crystalfair.com

9-12—BUENA VISTA, CO: Greg Tunnicliff; Rodeo Grounds; Thu. 9-5; Free; Website: http://abqfallshow.wix.com/contin-tail 10-12—WEST SPRINGFIELD, MA: LLD Productions, Inc.; Eastern States Expo, Fri. & Sat. 10-6, Sun. 10-5; \$8, Children free; Website: www.MineralShowsLLL.com 10-12—DALTON, GA: Dalton Gem & Mineral Jewelry Show; Northwest Georgia

Trade & Convention Center, Fri. 2-7, Sat. 10-6, Sun. 11-5; \$4, Under 17 free; Website: https://daltongemandminera.wixsite. com/mysite

10-12—HOUGHTON, MI: Copper Country Rock & Mineral Club; Portage Town-Gem & Mineral Club; Prescott Valley Event ship Elem. School, Fri. 1-8, Sat. 10-6, Sun. 11-3; free; Website: www.ccrmc.info/ 10-12—PORT TOWNSEND, WA: Port Townsend Rock Club; Jefferson County Fairgrounds, Fri. & Sat. 10-8, Sun. 10-6; \$8, 17-19—SOUTH BEND, IN: Michiana Gem srs & students \$6, children \$2; Email: jzim@gci.net;

> 10-12—MELBOURNE, FL: Frank Cox Productions; Melbourne Aud., Daily 10-5; \$5.; Website: frankcoxproductions.com 10-12—SACRAMENTO, CA: Gem Faire Inc.; Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7, Under 12 free; Website: www.gemfaire.com free; Website: www.gemfaire.com 11-12—EDMONDS, WA: Maplewood Rock & Gem Club; Maplewood Rock &Gem Clubhouse, Sat. 9-5, Sun. 10-5; Free; Association, 9-5; free; Website: www. Email: collma1@comcast.net 11-12—GONZALES, LA: Baton Rouge Gem & Mineral Society; Lamar Dixon Expo Center-Trademart Building, Daily Sat. 10-5; \$5, ages 5-12 \$3; Website: www.br gemandmineral.org

11-12—SPOKANE VALLEY, WA: Crystallography Gem + Mineral Market; Spokane County Fair & Expo Center, The Plaza, Daily 10-6; free; Website: crystallographygems.com

17-18—TAHLEOUAH, OK: Tahlequah Rock & Mineral Society; Cherokee County Community Building, Fri. 9-6, Sat. 9-5; \$3, children free; Email: Crescentmoon crafts.elaine@gmail.com

17-19—LEBANON, PA: Mid-Atlantic Gem knappers.tripod.com & Mineral Assoc.; Lebanon Valley Expo Center, Fri. & Sat. 10-6, Sun. 10-4; \$6, Under 12 free; Website: www.gem-show.com 17-19—LAKE GEORGE, CO: Lake George Gem & Mineral Club; next to Post Office, Daily 9-5; Free; Website: LGGM

and pattern are the reason it is called Cheetah Agate. These extraordinary agates have a great display of blackish dendrites (Blue Apatite) against a background of orange chiffon, with yellow. Only a few tons of this exciting new find were imported into the United States last year. It is not known if there will be any more available.

This is a very solid agate and the colors are vibrant with the pattern seeming to float in a colorful agate. This material is a very hard agate and takes a highly reflective polish with cerium oxide on soft leather.

http://www.spiritrockshop.com/ Agate Cheetah.html

Agates From Around The World **Cheetah Agate**



Cheetah agate is a fairly recent mineral discovery from Brazil.

This agate

is a by-product of an Apatite mining operation.

Cheetah Agate is found in seams with Apatite that is being mined in Brazil. Its color

Club.org

17-19—SARASOTA, FL: Frank Cox Productions; Sarasota Municipal Auditorium, Daily 10-5; \$5, Under 16 free; Website: frankcoxproductions.com 17-19—BRIDGETON, MO: Greater St. Louis Association of Earth Science Clubs: Machinists Hall; Fri. 3-8, Sat. 10-6, Sun. 11 -5; \$5, srs \$4, ages 6-17, \$2, Website: stlearthsci.org

& Mineral Society; St. Joseph County 4-H Fairgrounds; Fri. 12-7, Sat. 10-6, Sun. 11-5; \$3, ages 6-12 \$1, under 6 free; Website: michianagms.org

17-19—SANTA BARBARA, CA: Gem Faire Inc.: Earl Warren Showgrounds, Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7, Under 12 18—SHELTON, WA: Shelton Rock & Mineral Society; Mason County Recreation sheltonrockclub.weebly.com 18-19—BOSSIER CITY, LA: Arklatex Gem & Mineral Society; Bossier City Civic Center; Sat. 9-6, Sun. 10-4; children free; Website: larockclub.com

18-19—TEHACHAPI, CA: Tehachapi Valley Gem & Mineral Society; Tehachapi Sr Center, Daily 9-5; free; Website: tvgms.org 18-19—MISSOULA, WA: Crystallography Gem + Mineral Market; MASC Studios, Sat. 11-7, Sun. 12-5:30; free; Website: crystallographygems.com

23-26—MT. MORRIS, NY: Genesee Valley Flint Knappers Association, Inc.; Letchworth State Park; Thu. 12-5, Fri. & Sat. 9-5, Sun. 10-2; Free; Website: www.gv

24-26—FLAGSTAFF, AZ; Karmic Beads & Gems; Elks Lodge #499, Fri. 1-8, Sat. 10-6, Sun. 10-4; \$3, srs/Students \$2, Website: www.karmicbeadsandgems.rocks

24-26—COSTA MESA, CA: Gem Faire Inc.; OC Fair & Event Center, Fri. 12-6, Sat. 10-6, Sun. 10-5; \$7, Under 12 free; Website: www.gemfaire.com

25-26—CONCORD, NH: Capital Mineral Club; Everett Arena Concord, Sat. 9-5, Sun. 10-4; \$5, Under 12 free; Website: www. capitalmineralclub.org

25-26—EAST PEORIA, IL: Geology Section of the Peoria Academy of Science; East Side Center; Sat. 9-5, Sun. 10-5; Free; Website: pasgeology.com

25-26—MOUNTAIN HOME, AR: Ozark Earth Science Club; Baxter County Fairgrounds, Sat. 9-6, Sun. 9-4; \$2, Under 13 free; Sharon Waddell, (417) 274-8712 25-26—CANTON, NY: St. Lawrence County Rock & Mineral Club; Canton Pavilion, Sat. 9-5, Sun. 9-2; Free; Website: stlawrencecountymineralclub.org

Spiked Head Dino on Display

The fossil of a previously unknown 76 million-year-old armored dinosaur that once roamed the lost continent of Laramidia is finally going on display after being found in the scenic Grand Staircase-Escalante National Monument in southern Utah in 2008. The ankylosaurid fossil, known as Akainacephalus johnsoni, is now on exhibit in the National History Museum of Utah in Salt Lake City.

The genus name essentially means "spike head," but the species name is in honor of museum volunteer Randy Johnson, a retired chemist who helped prepare the skull.

Akainacephalus walked on four legs directly beneath its body and was considered medium-size, measuring between 13 and 16 feet long and 3½ feet tall. The characteristic bony armor covered it from head to tail, including bony plates for protection. Its skull was covered with spikes and horns.

The fossil includes a complete skull, most of the vertebral column, fore and hind limb elements, bony body armor neck rings and spiked armor plates and a complete tail club. It is the most complete skeleton of this type of armored dinosaur ever found in the southwestern United States.

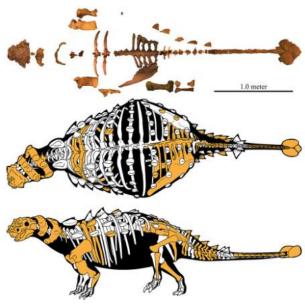
It was found in the monument's Kaiparowits Formation, where rocks and mud were deposited by rivers and streams. The fossil was discovered in 2008 during a paleontological expedition, along with a duck-bill dinosaur, a new species of turtle and a relative of alligators. The bones took almost four years to prepare.

Ankylosaurids were herbivores known for their intimidating bony tail clubs and body armor, and their fossils have been found in North America before. But this well-preserved fossil revealed a surprising detail. The ankylosaurid fossils associated with North America had smooth bony armor on their skulls. This one had pronounced spiky, bony armor covering the skull and snout, closely related to Asian ankylosaurids that lived 125 million years ago.

The fossil helped the researchers determine

that at least two immigration events occurred during the Late Cretaceous period, resulting in two groups of ankylosaurid dinosaurs.

When sea levels reached some of the highest in the history of our planet, the Western Interior Seaway effectively split the North



American continent in two. The western and eastern portions of the continent were isolated. To the west was Laramidia, and to the east was Appalachia. These would come together to form North America once again, resulting in the two essentially becoming lost continents.

Akainacephalus would have roamed the southern part of Laramidia, which once stretched from the Arctic Circle to the Gulf of Mexico.

But the sea level lowered briefly on several occasions, allowing dinosaurs and animals to go between Asia and western North America across the Beringian land bridge. This also accounts for the Asian ankylosaurid dinosaurs moving into North America.

Almost every species of dinosaur discovered in the Grand Staircase-Escalante National Monument is new to science, including Akainacephalus. This part of Laramidia was incredibly diverse in plant and animal life between 75 million and 80 million years ago. Possible reasons for the area's diversity include sea level, climate differences across latitude or barriers like mountains and rivers.

https://www.cnn.com/2018/07/19/us/new-armored-dinosaur-fossil/index.html

Cuyuna Rock, Gem, & Mineral Society on the Web

www.cuyunarockclub.org



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

Rock Room

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 79 Bed Geodes—Oregon Moroccan White Agate Various slabs of many sizes Obsidian –not priced yet Mineral specimens—not priced yet

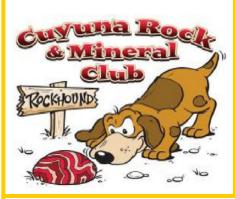
Sunshine Requests

If you know someone who could use a little sunshine—birth, illness, surgery, family

death—please contact Christi Higgins at 320-224-6650. Marcia Opatz, Editor Cuyuna Rock, Gem & Mineral Society 1001 Kingwood Street Suite B-40 Brainerd, MN 56401

FIRST CLASS MAIL





The Agate Explorer



August 2018

Official Publication of the Cuyuna Rock, Gem & Mineral Society

Members of AFMS & MWF



Notes from the President

The Crow Wing County Fair is almost here, and our list of volunteers looks pretty sad. We must have all five days manned (12 hours each day) to have our booth. PLEASE do what you can to help, even if it's just a couple of hours.

At Get Pickin there is not a lot of parking. You might want to consider carpooling. Call Joanie to see who else is going that lives near you.

As summer winds down I am thinking about speakers and classes for fall and winter. Do you have any ideas or contacts? What do you want to learn about? Please let me know if you have an opinion or someone who could speak at a meeting.

July was a hard month in our house. Marcia's son, Nick died very unexpectedly a few days after back surgery in Las Vegas, where he lived with his girlfriend and 10 year old son. We spent some time in Las Vegas for a memorial service, and then another one was held in Minnesota.

Ed Opatz

Club Officers & Board of Directors

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

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