St. Croix Rockhounds
Doug Olson, Editor
211 Interlachen Way
Stillwater, MN 55082

December 2010

First Class

Please send exchange bulletins to:

Doug Olson, Editor
211 Interlachen Way
Stillwater, MN 55082

December 14th – *The program:*

X-mas Party at the Old Country Buffet

St. Croix Rockhound's
LEAVERITE NEWS
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Member of: AFMS & MIDWEST FEDERATION

ST.CROIX ROCKHOUNDS

MEETINGS: Club meetings are held the third TUESDAY of each month, at Stonebridge Elementary School on W. Elm. St. in Stillwater, MN at 7:15 P.M.. Everyone is welcome.

MEMBERSHIP: Full membership for a single person over 16 is $7.50 per year. Family membership is $10.50 per year.

OFFICERS:

President	Victor Martinsen	(715) 247-3700
Vice President	Ron Lewis	(715) 246-5118
Secretary	Bill & Thomas Fernholz	(651) 430-9039
Treasurer	Carol Jensen	(715) 483-1047
Program Committee	Bill Cordua	(715) 425-9544
	Victor Martinsen	(715) 247-3700
Show Committee	Bill Cordua	(715) 425-9544
Refreshments	Freya Kask	(651) 777-6371
Librarian	June Young	(651) 429-3887
Historian		
Sunshine Committee	Marie Newlander MN	(651) 439-7809
Tour Director	Susan Dustin	(651) 430-3933
Liaison Officer	Freya Kask	(651) 777-6371
Newsletter Editor	Doug Olson	(651) 430-9035

The purpose of our organization is to bring together rock and mineral enthusiasts on a regular basis through membership and through pooling of individual knowledge, talents and skills, to improve the lapidary skills of participating members. Affiliation: American Federation of Mineralogical Societies and Midwest Federation of Mineralogical and Geological Societies.

COMING UP! - December 14th - St Croix Rock club meeting will be the annual X-mas party at the Old Country Buffet near the Maplewood Mall. Proceedings proceed at 6pm – but come when you can.

COMING ATTRACTIONS

November 20-21st: Madison Gem & Mineral Club Show "Rockin' Madison 50 Years" at 1919 Alliant Energy Center Way; Madison, Wisconsin. Contact 608-251-2601 or e-mail burniesrockshop@gmail.com or check www.madisonrockclub.org.

December 14th: St. Croix Rockhounds x-mas party at the Old County Inn Buffet near the Maplewood Mall.

January 18th: St Croix Rockhounds club meeting will be held at the Stonebridge Elementary School on W. Elm St in Stillwater, MN at 7:15 pm.

February 26-27th, 2011: Anoka county Gem & Mineral Club "pre-spring" show at the Har Mar Mall in Rosedale, MN.

April 9-10th,2011: Anoka county Gem & Mineral Club "spring" show at the Har Mar Mall in Rosedale, MN.

April 16th, 2011: St Croix Rockhounds Annual Club Show at the Valley Creek Mall in Woodbury, MN

Minutes of the St Croix Rockhounds

November 16th, 2010

Meeting called to order at 7:15 by President Vic Martinsen

Motion to approve October Meeting Minutes passed.

Treasurers Report: Tim was absent.

Christmas Party will be at Old Country Buffet in Maplewood December 14th after 6 p.m. show up when you can.

November refreshments provides by Bill and Thomas, and Ron Lewis, Thanks guy's.

We still need **treat providers for January** meeting, any volunteers?

Field Trip Committee: Susan was absent

Newsletter: Doug was absent

Sunshine Committee: Dave R. mentioned Helen Betlock had surgery recently and is recovering. We wish her well.

Vic brought in some **library materials** for members to read.

Brian brought in **a bag full of beautiful polished agates** he donates to the Childrens Hospital. Cheryl read a very moving letter about how the rocks represent the strength of family and God during trying hospital stays. Thank You Brian!

Door prize winners Joe, Hope, Jackie, Thomas, Veronica, Matt, Karin, Norma, Bonnie, Sue, Joyce, David, Trude, Samantha, and Cheryl.

Thanks to Vic for bringing in the Luguna Agates and Ron for the other door prizes.

The program was titled **New Discoveries in Old Till**, by Dan Wendt. He also brought in several hand knapped tools and samples for us to see.

Dan did an excellent job on his very informative presentation. Thanks Dan!

Meeting minutes by Bill and Thomas Fernholz.

Celebrate: December's alternate birthstone is turquoise.

In the language of chemists and geologists, turquoise is known as "copper aluminum phosphate." Turquoise is often found in weathered igneous rock that contains copper minerals, where it crystallizes in veins and nodules. The gemstone usually develops in rock near water tables, located in semiarid and arid environments. The chemicals in turquoise come from adjacent rock, leached out by rain and groundwater.

Turquoise is a relatively soft gemstone, and can be easily scratched and broken. This porous opaque stone is easily discolored by oil and pigments, and changes color when it loses some of its water content. A sky blue shade in turquoise is due to the presence of copper, while iron gives it a greener tone. Ochre and brown-black veins in the stone occur during the formation of turquoise, caused by inclusions from nearby rock fragments or from oxide staining. The most valued variety of turquoise is an intense sky blue color, like the color of a robin's egg. Hard, relatively non-porous compact stones have the best appearance because the stone can be finely polished. Pale and chalky varieties however are sometimes impregnated with oil, paraffin, liquid plastic and glycerin to give it a good polish.

The vibrant turquoise was believed to be a defender against bad luck to those that wore it. It has been said that cowboys always carry a blue turquoise on their journey's so that they might be blessed with success. A present day addition is the Zircon, whose naturally found brown clear crystals are heated to turn into the beautiful blue gemstone.

December birthdays:

Eloise Kimball - 1st
Robert Olson – 8th
Brad Bonse – 31st
Sandy Dustin - 31st

December Anniversaries:

Dave & Wendy Flynn anniversary - 29th

Stabilizing Soft Turquoise with Sodium Silicate by Ed Ashton

In September's 1993 Lapidary Journal, June Culp Zitner reported that Rock Rustlers (Minnesota Mineral Club) had a recipe for hardening chalk-soft turquoise. Thanks both to June and the Rock Rustlers for information that allowed me to add just one more method to stabilizing Turquoise.

After several times through the process I will tell you how to use the method with great success.

Step 1: Use a quart wide-mouth canning jar. Soak pieces of soft and chalky turquoise in a solution of sodium silicate (water glass and water at a 50/50 strength. The pieces should not be larger than 2" in diameter. Be sure all pieces are covered. Soak the material from 7 to 10 days.

Step 2: Dry in the sun for 10 days. I place a piece of waxed paper on a sunny windowsill; it works well.

Step 3: Use a 2-quart Pyrex bowl, place a 1-inch layer of sand in the bowl. Lay a layer of the soaked material on the sand so they don't touch. Add another 1-inch layer of sand on top of the first layer of materials. Repeat until all the material is covered with sand including the last layer.

Step 4: Cure by baking in the oven starting at 150 degrees Fahrenheit for 2 hours. Turn the oven up to 225-250 degrees for another hour. Then turn the oven off. DO NOT open the door. Allow it to cool slowly overnight and you are ready to work the material.

HINT: Buy the Sodium Silicate at your drug store. Get the near quart bottle size, which will cost about $6.00 (probably more in 2004) for the quart. Used over and over it will cure a bushel of turquoise. As long as you pack the material in sand it will not be liable to cracking. You can also bake the material in sand in a coffee can or baking pan. *from RockCollector 10/04 via "Rock Chips" 8/04 and Sedona Red Rocking News 9/04. via Stoney Statements 3/05*

Mysterious Montana Agate Scenes

It has always been a mystery how the peculiar little scenes got inside a rock as hard as agate. It is the claim of geologists that the spots were caused by infinitely minute seams or fissures in the softer parts of the rock being filled with metallic oxides when the world was young. These oxides made four different colors that form various combinations of color when blended together, or appear in single colors in each rock.

The red color is oxide of iron. The black is oxide of manganese. The green is oxide of copper. The blue is oxide of nickel. This theory has been elaborated by the help of high-powered microscopes which show the tracings of little canals so close the naked eye could not detect it; but the oxides remained staining the rocks in wonderful designs. The fernlike and branch effects of the trees grass and shrubbery, come from the fact that the tiny canals branched out in various subdivisions forming smaller canals for a common center. In addition to these canals, the rock became flawed through shrink-age while passing through a period of evaporation, which, according to scientists, has taken more than three million years to reduce the stone to the hardness of 7 on the Mohs scale.

These canals and flaws have been perfectly healed by soft silicate formations of which the stone is a part, and the evaporation has caused the oxides to take on such forms as seen on the window after a frosty night. Technically, Montana agate is known as "dendritic" agate, and the moss spots are called "dendrites".

It is the third hardest stone in the world, and is cut only with a diamond saw. There can never be two pieces alike even though cut from the same stone. *from The Petrified Digest 5/ 2001, via Rock Writings & others, via Rocket City Rocks & Gems, 3/2000), via Stoney Statement 6/2001. via Rockhound Ramblings 08/01*

Phenomenal Gems *by Wanda Tilsit* - When you hears the phrase “phenomenal gems”, what do you think the meaning is? The dictionary definition of phenomenal gives the impression that these are really great stones, by gem standards very exceptional. In some respect that is correct. However, in gemological circles, the term “phenomenal” holds a very special meaning. It is minerals or gemstones classified in a way which it exhibits special optical characteristics -- or phenomena.
Special optical characteristics… what do we mean by special optical characteristics? Well if you see a star sapphire, the star effect, which is referred to as asterism, is an optical characteristic or phenomenon.

Asterism

A star may have four, six, or 12 legs (rays) radiating outward from a central point. They will also follow the light source as it travels over the surface of the stone. To fully exhibit this effect, gemstones or minerals need to be cut en cabochon, a style that has a dome-like appearance on top.

While many minerals and gemstones exhibit stars, some are extremely rare and highly prized by collectors and jewelry designers. Stars can be found in Quartz, Garnet, Sapphire, Ruby, Scapolite, Spinel, and Diopside.

Star Sapphire

Chatoyancy

Another type of phenomena, is where some gemstones exhibit the optical effect called chatoyancy. A chatoyant gemstone, if properly fashioned, will display a line of varying thickness that will glide over the surface of the host material as it follows the light source. To fully appreciate chatoyancy, materials need to be fashioned in the same way that stars are -- en cabochon.

The word chatoyant is derived from a French phrase that translates as “eye of a cat.”

Large or small, feral or domesticated, all cats have one trait incommon--a characteristic slit that runs through the center of the eye; hence the more well known term “cat’s eye”. It should be noted that the term cat’s eye always refers to the mineral Chrysoberyl. However there are other minerals which exhibit this effect. Such as Tourmaline, Quartz, Tiger Eye, Zircon, and Moonstone.

So how do stars and cat’s eyes occur? They are due to a special arrangement of inclusions in the mineral. As incoming light strikes the surface of the host material, it comes into contact with and reflects off of a series of fine fibers or needles. If the needles are arranged parallel to one another, this creates a Cat’s Eye effect. If the layers of parallel needles or fibers are arranged at definite angles throughout the material, stars are produced. In case of simple chatoyance, for instance Tiger’s eye, most pieces are a yellow to light brown color, but enhancements can create reds or other colors, and a naturally occurring variant called “hawk’s eye” has a grey-blue to greenish color. Less familiar to many, but greatly admired for their displays of chatoyance are the Charoite, Pietersite, and Serephinites.

Chrysoberyl

Seraphinite

The gem variety of Clinochlore, is a lovely dark green stone that changes sparkle and light as you comes from mine Korshunovskaia which is situated not far from Baikal Lake in Eastern Siberia, Russia. This mineral got its name from the Greek words for inclined and green since its structure is monoclinic and its common color is green.

Seraphinite

Charoite

From Russia, discovered in 1978 in the Murun Mountains in Yakutia.

Named after the nearby Charo river. It is opaque bright purple, with wild swirls of fibrous material and is one of the strangest looking natural gemstone.

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Pietersite

Pietersite crystallizes in the form of masses, the structure a result of inclusions in jasper where the inclusions are pseudomorphs after asbestos.

The color is blue/black/red/yellow with a strong chatoyant quality. It was discovered by Sid Pieters, on his farm in Namibia.

Color Change

Another very important phenomenon is color change. You may occasionally hear the more technical term photochroism (photo: light and chroism: color) used to describe the effect. The most famous colorchange gemstone is Alexandrite, a member of the chrysoberyl highly prized material changes from a bluish green to a reddish color. The more intense the change, the more valuable the material becomes.

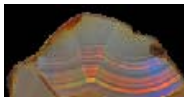
Alexandrite (incandescent light)

Color change, while highly prized by collectors, is not present in many mineral species. In some cases, such as Tourmaline, the phenomenon is extremely rare. While Alexandrite is the most well known and expensive color-change mineral, there are less expensive alternatives, such as color change Garnet or Sapphire.

Alexandrite (daylight)

Iridescence

Iridescence is a phenomenon which shows as a multicolored, surface effect, which is caused by diffraction. As white light passes through very small openings such as pores or slits, or through thin layers of material which differ in refractive index, a prism effect causes it to separate into spectral colors. These may then be seen on the surface, or in some cases in the materials interior. Sometimes when combined with interference, i.e where the slightly out of phase color waves bounce off of different layers overlap as they reflect, a loss of some colors or a reinforcement of others colors can take place giving rise to dramatic color blocks, which may shift with viewing angle.



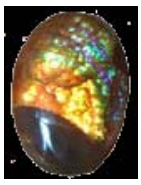
Iridescence is the most widespread of the optical phenomena, we see its effects in pearls, the display of fire agate, “rainbow calcite”, certain obsidians, and iris agate.

It also creates the rainbow display of fractures, the beautiful colors of Labradorite, and, the most well known occurrence in the “color play” of precious opal.

Iris Agate

Pearls

The orient of pearls, is a delicate, shifting, iridescent color layer that is distinct from the basic body color of the pearl or from its luster. Both luster and orient are a function of the thickness and perfection of the layer of nacre on the pearl’s surface. Nacre is composed of thin plate-like layers of Aragonite crystals accounting for over 90% of its weight, along with conchiolin protein, and water. Although most pearls have that characteristic “pearly luster”, only fine quality pearls have orient. It can also be present in the “mother of pearl” lining of shells, and is especially vivid in the shells of some species of abalone.

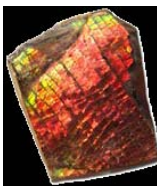


Fire Agate

The aggregate quartz known as fire agate, gets its iridescence from thin coatings of iron oxide (limonite) layered over its botryoidal chalcedony surface. The best specimens of this material can be very striking.

Fire Agate

Ammolite



This gem is the result of the fossilization of extinct, shelled mollusks, called ammonites. Although many ammonite fossils are found, only a certain type from a restricted area in Canada shows the iridescent effect, which has preserved, and enhanced, the thin, tablet-like aragonite crystal layering of the shell.

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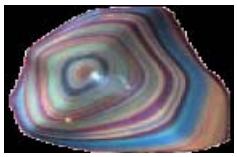
Ammolite

The thickness of the preserved layers controls the colors that will be seen. Thicker layers produce red or orange colors, and thinner ones, the blues and violets. Due to the fragility of the thinnest layers, specimens with blue or violet color are especially rare and costly.

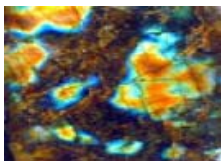
Phenomenal obsidian



Rainbow Obsidian

Most obsidian is pretty plain looking, in mostly drab shades of brown and black. Certain types, however, display iridescent patterns due to dense congregations of minute suspended inclusions that act like diffraction gratings. This is sometimes given the trade names of "velvet" or "rainbow" obsidian.

Labradorescence



Labraadorite

Labradorescence is a type of phenomenon, whereby a form of iridescence caused by repeated, microscopically thin layer (lamellar) twinning in Labradorite feldspar.

One of the characteristics is that the twinning is very specifically oriented within the crystal, thus making the iridescent display highly directional. At some angles the light encounters no thin layers and no effect is seen, in other directions of view we see a bright blue, gold, green or multicolored surface.

Adularescence

Adularescence is another phenomena from which occurs when a gem displays a billowy floating light which appears to come from below the surface. The name comes from the most prominent gem displaying the phenomenon: moonstone, known historically as "adularia". The term "shiller" or "schiller" is sometimes used to describe the light.

In Moonstone, adularescence is due to a layer effect, where thin inner strata of two types of feldspar intermix, (exsolution regions of sodium feldspar in potassium feldspar).

Moonstone

These layers scatter light either equally in all spectral regions producing a white shiller, or as in the most valuable specimens, preferentially in the blue or the blue and orange. As in so many cases of optical phenomena the size or distance from layer to layer influences the colors we see.

Aventurescence

Aventurescence is a phenomenon which owes its beauty and distinctiveness to structural features which diffract or scatter light. Aventurescence is a consequence of reflection. When disk or plate-like inclusions of another mineral are present, and are of a highly reflective nature, they act as tiny mirrors, which causes the gem to sparkles and glitters. This glitter is called aventurescence.

The term shiller, is also used to describe this sparkly glow. The most common reflectors are copper, hematite and mica. The name is derived from the Italian word for "chance" or accident, and has no "d" in it, but the word is mispronounced as "adventurine". The most commonly encountered species showing this effect are certain feldspars and one variety of quartz.

"Goldstone", a man-made aventurescent glass with copper particles deliberately added to it, has been an inexpensive and popular gem imitation since the Victorian period. *from Chipper's Chatter 06/2010*

The secret of a good sermon is to have a good beginning and a good ending – and to have the two as close together as possible – *George Burns*

My wife has a slight impediment in her speech. Every now and then, she stops to breathe – *Jimmy Durante*

The male is a domestic animal which, if treated with firmness and kindness, can be trained to do most things – *Jilly Cooper*

Don't worry about temptation. As you grow older, it will avoid you – *Winston Churchill*

from Rockhound News via Agate Explorer 05/07

Stolen Gems *St Croix Rockhounds Leaverite News*

Take care fo the motor in your slab – if you have a slab saw that really works and has a separate feed motor, other than your main motor, and it is mounted on the front of the saw, try this tip. Raise the front of the saw by puttiing a piece of 2x4 under the front legs. What this does is reduce the side pull pressure on your feed motor. For example, my slab saw has a front feed motor and over time I have had to replace my feed motor about six times. What happens is the gears in the motor will not hold up to the side pull pressure of your saw. Raising the front of the saw allows your rock viise to move towards your blade much easier. This works on table mount saws also. This also helps other saws such as your Highland Park as it reduced pressure on your feed system. If you try this, you will find that yousaw will also use less cutting flud. *By Dick Peresoll from the Voice 02/07 via Rock Chips 04/07.*

A little known fact – the world's strongest adhesive is barnacle glue, the stuff a barnacle uses to stick itself to the side of a ship or whatever. Chill it to 0 degrees F, it still won't crack. No solvent known breaks it down. The holding power of a speck of it is rated at three tons per square inch. Now that's some glue, but it isn't even on the market. *from Gems of the Rogue 03/07 via Rock Chips 04/07*

Early uses of minerals – at the turn of the century, tin was added to silk when weaving fabric for ladies' skirts – up to 25% tin. This prouces the luxurious swish in the era of elaborate clothes.

The fotune teller's crystal ball was a sphere of flawless quartz. Oriental embroiderers discovered they could use these spheres to coll their hands and prevent moisture from soiling the fine silds with which they worked.

Bubble containing slenit crystals from caves were used as levels by early Mexican miners. *from Roadrunner New 02/07 via Rock Chips 04/07*

Grit change – adding a couple of pouches of Knox Gelatin during each grit change while tumbling keeps the grit in suspension and helps it to work better. In the final polish, the gelatin acts as a cushion and prevents scratches on delicate stones, such as Apache tears. *from Lodestar via the Rock Table 10/95 via Agate Picker 04/96*

Shop hint – fluorescent display labels can be read in the dark by using ink made by mixing quinine and water. It glows a bright blue under the black light. *from Strata Gems via MWF Newsletter 04/96 via Agate Picker 04/96*

Shop hints – Algae and lichen may be removed from specimens by soaking in a solution of ammonia and water.

For the best aluminum pencils use double-pointed knitting needles. Sharpen them on the grinding wheel and they will last indefinitely.

Saran Wrap doesn't stick to epoxy. Use under your work to stop sticking. *from Agate Picker 04/91*

Expanding sanding drums – a common problem that many lapidarists may have with expandable sanding drums is that the sanding belts may tend to slide across the drum when pressure is applied to the stone being sanded. This problem can be alleviated considerably by tightening the drum very securely to the shaft on which it rotates. The sliding of the sanding belt occurs when the drum momentarily stops when pressure is applied to it.

As a saftey measure, do nto let the drum rotate faster than the manufacturer's recommended safe speed. Drums made for commercial cutters can turn much faster than ones made for hobbyists. These drums can tear away from the shaft and administer a still beating to the user. *from Pick & Shovel via Achates via Agate Picker 10/92*

Santa Claus has the right idea. Visit people only once a year. *– Victor Borge via Rockhound News via Agate Explorer 05/07*