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Regular monthly meeting
2nd Friday each month at 7:30 pm
(Except July & August)
Craft Room, Campbell River Community Hall
401-11th Ave
Campbell River, BC



RIPPLE ROCK GEM & MINERAL CLUB

RIPPLE ROCK EXECUTIVE 2015

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Delegates to Vancouver Island Zone Meetings

Senior	Gordon Burkholder
Intermediate	Jan Boyes
Junior	Ulla Williams

WORKSHOP

Shop located at 246 Dahl Rd.
 For general shop info contact
Beba Adams 250-926-0044
**The workshop hours are posted on the
 club website.**

www.ripplerockgemandmineralclub.com

MEMBERSHIPS

A single membership is \$15.00 and a family is \$25.00. Memberships may be paid at the *General meetings* or by mail to Box 6 Campbell River, BC, V9W 4Z9.

President's Thoughts

Geologist's Presentation

Kathy reported that she was very impressed with the David Caulfield presentation and learned a lot. She went on to say that it would be very useful to our membership to have David back again at some future meeting to continue his presentation and perhaps have members bring in rocks for identification. Sounds like an opportunity to me!

Remember that the next General Meeting is on Friday, April 10 at the usual time and place.

Kathy Young

Vice President's Choice

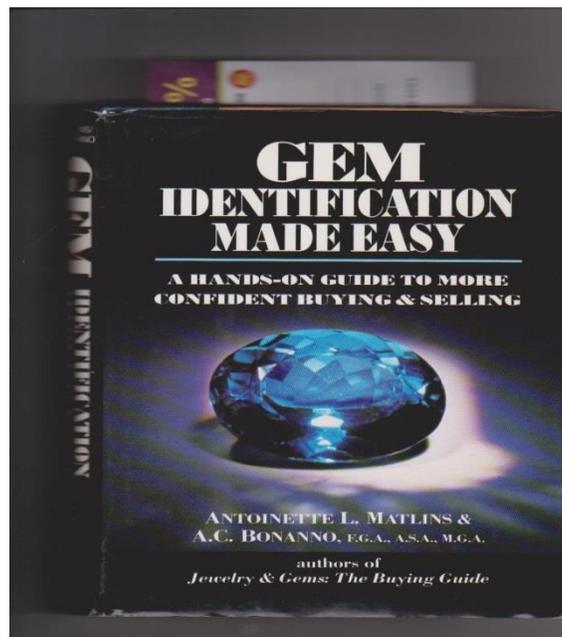
From the Library

Since three of our members are taking the Gemology class with Tracey Gibbons at N.I.C. I think this is a time to talk about one of the books that we got at the Auction last summer.

I have been reading this for the last 2 days and it covers everything that Tracey has talked about so far. This read makes good sense of the identification tools used and explains what gems will respond like under different magnifications of each different tool. I would highly recommend it to students of gemology and those who are interested in gaining knowledge on buying gems.

Cheers folks!

Linda Henderson



Show Case Reception

Just a quick update on this year's showcase and how we've done at the two shows we've had it set up at. Firstly this was a combined effort of Bev Bowman, Linda Henderson and myself, Beba Adams to organize and plan the contents of the case. We received contributions from a number of people in the club for which we thank them and they will receive their donations back after our own show in June. At the Port Alberni show we were voted 1st in the Peoples' Choice - we've never accomplished this before - at least not since I've been involved in the showcase. Then, in Victoria, I was under the impression that they were not planning on doing a Peoples' Choice this year, but when I went to Jack and Jan's to pick up our showcase contents, we had a certificate for 2nd place. So it seems they changed their minds and I was really happy about it as it gives us more incentive to come up with something interesting and different when there is a competition involved.

All for now.

Beba Adams



Show Chair's Update

The organization, planning and preparation for the annual Gem Show is well underway. There are always plenty of things that need doing and volunteers that need to make themselves known to the organizing committee. The latest project is the repair and maintenance of the display cases. These have been moved to Jack and Jan Boyes place and a work party is being set for Sunday, April 12th. More details will be provided at the general meeting.

There will be a used equipment table again as well as a silent auction. The club will have a table with information, membership forms and Beach Pebble Identification pamphlets for sale.

For more information on what's happening and how you can help, contact one of the Show Committee members; Molly Milroy, Linda Henderson, Beba Adams, Gordon Billings, Melissa Ticknor, or Diane Cooper.

Editor's Message

April has welcomed us with warm open arms and we Rockhounds are beginning to take stock of the accomplishments of our fellows at the various shows and replenish our own wares on fieldtrips and outings to our local rock dealers. This issue continues with the exploration of how to identify rocks using Mohs scale, showcases our show case, and introduces the rocks of April; the diamond and clear quartz and the opal. I have included a pattern for faceting as a follow-up to the introduction from last issue. I am also hoping that some members will provide a bit of personal information on what they have been up to (in the rock shop) during the winter. Enjoy!

Gordon Burkholder

Quotable quote

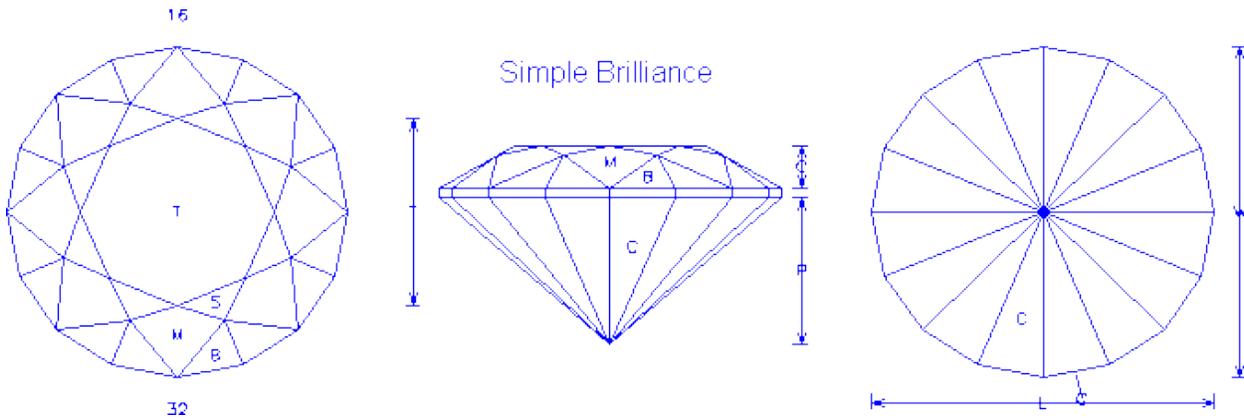
Everything has its limit - iron ore cannot be educated into gold. *Mark Twain*

FROM THE SHOP

Faceting 'Simple Brilliance'

Here is a "simple" pattern for faceting that I got from the faceters page on the internet. "They" say it is one of the very first patterns for the beginning faceter to attempt.

Simple Brilliance			
Angles worked out on GemCad by Jack Rowland heliodor@mindspring.com			
Angles for R.I. = 1.54		49 facets + 16 facets on girdle = 65	
8-fold symmetry		32 index	
L/W = 1.000 T/W = 0.563 T/L = 0.563 P/W = 0.442 C/W = 0.126		H/W = (P+C)/W+0.02 = 0.588 P/H = 0.751 C/H = 0.215	
Vol./W ³ = 0.200		Brightness at 0 degrees tilt for quartz COS = 89.4% ISO = 94.7%	
Pavilion			
C	42.00	01-03-05-07-09-11-13-15-17-19-21-23-25-27-29-31	Cut to center point
G	90.00	01-03-05-07-09-11-13-15-17-19-21-23-25-27-29-31	Level the girdle
Crown			
B	35.00	01-03-05-07-09-11-13-15-17-19-21-23-25-27-29-31	Leave some girdle
M	30.00	32-04-08-12-16-20-24-28	Cut to Break-Girdle meet point
S	16.00	02-06-10-14-18-22-26-30	Cut to top Main-Break meetpoint
T	0.00	Table	Cut to Star-Main meetpoint



Quote:

» Success is getting what you want. Happiness is liking what you get.

- H. Jackson Brown, Jr.

ROCK OF THE MONTH

Diamond

*She who from April dates her years,
Diamonds shall wear, lest bitter tears
For vain repentance flow; this stone,
Emblem of innocence, is known.* — Gregorian birthstone poem

Arguably the most popular gemstone on earth, diamond is the modern birthstone for April, in the United States and in Britain, as well as in India. The gemstone was likewise traditionally recognized as the April birthstone, and was in fact designated as the birthstone of April in the old Polish and ancient Hindu calendar. Before the gemstone landed on these calendars as the gemstone for April, diamond was a zodiac stone for Aries, which falls partly on the month of April.

Diamond is the hardest gemstone on earth, and remains one of the most expensive. Its reliably high value keeps this stone of April in the modern list of precious stones. While occurring in a variety of colors, the April gemstone is most popular as the clear, bright white diamond. The April stone is believed to bring good luck, protecting its wearer from misfortune.



Hope Diamond Source: the [National Museum of Natural History](#)

Sapphire

Besides diamond, sapphire is the traditional birthstone for April. The gemstone was the April birthstone in the old Roman, Italian, Russian, Hebrew and Arabic calendar. Before sapphire became the birthstone of April in these ancient calendars, the gemstone was the main zodiac stone for Taurus, which falls partly on the month of April.

This April gemstone is a precious variety of corundum, which when red is called ruby. While occurring in a variety of colors — ranging from pink, orange, yellow, white to black — sapphire is most popular in its blue color, which makes the name *sapphire* synonymous to a brilliant blue. The April stone is believed to bring inner peace and spiritual enlightenment.



A magnificent blue sapphire ring
Source: Stanislav Doronenko via Wikimedia Commons

Clear Quartz

Beside diamond, clear quartz, also known as rock crystal, has also been designated in Britain to a birthstone for April. The rationale seems rather simple: Rock crystal is clear as diamond is clear. Indeed, clear quartz provides a less expensive alternative for an April birthstone to diamond. This new April stone is the colorless variety of quartz, which when yellow is called citrine, and when violet amethyst. The April gemstone is believed to bring happiness.



Cut stones of clear quartz, also known as rock crystal
Source: Mauro Cateb via Wikimedia Commons

Opal

Opal is the birthstone for April in the old Tibetan calendar. This April birthstone occurs in a variety of colors, and is popular for its multi-colored fire that shines against a certain body tone, which ranges from white, blue, to black, black being the most expensive of the precious opal. The Romans held this birthstone of April to be a symbol of hope and purity.



A blue opal set on a ring

Source: Stanislav Doronenko via Wikimedia Commons

April Birthstone Color

What color is April birthstone? Given the modern birthstone for April, especially with the alternative April gemstone in Britain, the birthstone color for April seems rather obvious. Clear, or colorless, is the April birthstone color. Diamond, the modern as well as traditional birthstone of April, is most popularly clear. Rock crystal, the alternative modern gemstone for April in Britain, is also clear. Likewise, sapphire, a widely accepted traditional stone for April, can also be colorless. Of course, these birthstones for April are described to be white — white diamond, white quartz and white sapphire; but the color is technically clear, colorless, allowing the vision to pass through the gemstone itself, which lacks a definite hue. Indeed, April birth color is most popularly regarded to be clear or colorless.

Quote:

It is the paradox of life that the way to miss pleasure is to seek it first. The very first condition of lasting happiness is that a life should be full of purpose, aiming at something outside self.

- *Hugo Black*

WHAT'S THAT ROCK?

How does Hardness help identify rocks?

The simple answer to that question is that the hardness of a mineral does not vary (greatly) from specimen to specimen. Indeed, in terms of reliability, hardness is one of the better physical properties for minerals. Specimens of the same mineral may vary slightly from one to the other but generally they are quite consistent. Inconsistencies occur when the specimen is impure, poorly crystallized, or actually an aggregate and not an individual crystal.

Hardness is one measure of the strength of the structure of the mineral relative to the strength of its chemical bonds. It is not the same as brittleness, which is measure of strength that is purely related to the structure of the mineral. Minerals with small atoms, packed tightly together with strong covalent bonds throughout, tend to be the hardest. The softest minerals have metallic bonds or even weaker "van der Waals" bonds as important components of their structure. Hardness is generally consistent because the chemistry is generally consistent.

How can you test Hardness? Hardness can be tested through scratching. A scratch on a mineral is actually a groove produced by microfractures on the surface of the mineral. It requires either the breaking of bonds or the displacement of atoms; as in the case of metallic bonded minerals. A hard mineral can scratch a softer mineral but a soft mineral cannot scratch a hard mineral. Therefore a relative scale can be established to account for the differences in hardness simply by seeing which mineral scratches another.

French mineralogist, Friedrich Mohs did exactly that nearly 200 years ago.

The Mohs Hardness Scale is universally used as a way of distinguishing minerals. In Mohs scale the higher the number, the harder the mineral.

This is the simple Mohs Hardness Scale;

1. talc
2. gypsum
3. calcite
4. fluorite
5. apatite
6. orthoclase
7. quartz
8. topaz
9. corundum
10. diamond

In order to use the scale it is necessary to have on hand some of the minerals in the scale. If you wish to test an unknown mineral for hardness you might want to begin with an ordinary specimen of apatite to see if the unknown specimen can scratch it then the harness is greater than 5. If not, then the mineral is softer than 5. If they scratch each other the hardness is 5. You will need to perform other tests to determine the hardness.

Next try a harder or softer mineral like calcite (3) or quartz (7) to narrow down the hardness. Remember that this is a relative scale and a mineral that can scratch a mineral that has a hardness of 4.5 may be given a hardness value of 5 but it still might be softer than apatite.

Below is a revised Mohs Scale with some everyday items listed instead of the minerals.

1. Talc
2. Gypsum
2.5 fingernail
3. Calcite
3.5 copper penny
4. fluorite
5. apatite
5.5 window glass or a typical knife blade at under 5.5
6. orthoclase
6.5 streak plate or good steel file at over 6.5
7. quartz
8. topaz
9. corundum
10. diamond

Since the Mohs Scale is only relative it does not mean that diamonds are 10 times harder than talc. Nor does it mean that fluorite is twice as hard as gypsum. Using sensitive equipment, a comparison of the absolute hardness between minerals has been measured. Listed below in absolute numbers is the hardness scale Mohs created.

1. Talc
- 1 Gypsum
- 9 Calcite
- 21 Fluorite
- 48 Apatite
- 72 Orthoclase
- 100 Quartz
- 200 Topaz
- 400 Corundum
- 1600 Diamond

The simpler, relative Mohs hardness scale is much easier to remember and use. There is a sheet of rocks and their relative hardness posted at the shop. This list contains many but certainly not all rocks that might be used in lapidary. Check it out the next time you're in the shop. There is also a Mohs scale on our website ripplerockgemandmineralclub.com

Kornography: Geologists don't wrinkle, they show lineation!

WELCOME "NEW" MEMBERS

We'd like to welcome Ernie Carlson from Comox, the Glaspy family; Julie, Kehn and Rowan from Quadra, and the Underhill family; Wes, Jennifer and children to our club. We look forward to getting to know each and every one of you.

Wes Underhill sent this introductory note.

Hi there! We are new to Campbell River, having moved from Rycroft, AB just last September. We are a young adventurous family (five in all) and love exploring our new home. To be honest, we barely know a darn thing about rocks, but we do know that what we like, and we love picking up treasures whenever we go on a hike. We absolutely love beachcombing. We have wanted to live on this beautiful island for a long time and now that we are here, we want to get the most out of every day.

Wes Underhill

Did you know... Some jokes just fluorite over my head.

FROM THE CUTTING FLOOR

Quartz

Since one of the rocks of this month is quartz (7 on the Mohs scale) I thought that some information on this very common mineral might be appropriate. Here's what I found.

Pure Quartz, which is also known as **Rock Crystal**, is colorless. Various impurities are responsible for the extensive range of colors. The main crystalline Quartz varieties used as gemstones are described below.

Amethyst

Amethyst, the purple variety, is the most popular and valuable Quartz gemstone.

Amethyst ranges from light to dark purple

Citrine

Citrine is the yellow, orange, or reddish-brown variety of Quartz. It is usually colored by heat treatment of Amethyst or Smoky Quartz. Light yellow or lemon yellow Citrine is often called Lemon Quartz in the gem trade.

Smoky Quartz

Smoky Quartz is the brown "smoky" variety of Quartz. It ranges in color from light brown to black. Despite its dark color, it is rarely opaque.

Rose Quartz

The rosy pink variety of Quartz is known as Rose Quartz, and its color is usually soft, ranging from very light pink to medium pink in intensity. Rose Quartz is often milky or hazy, and it may lack good transparency.

Rock Crystal

The colorless, transparent variety of Quartz, free of any impurities, is known as "Rock Crystal". Flawless and very large cuts may be cut from Rock Crystal.

Milky Quartz

Milky Quartz is the white, translucent to opaque variety of Quartz. Though very common in nature, it is not used as a gemstone.

Rutilated Quartz

Colorless Quartz with golden yellow rutile inclusions, as hair like growths within the gemstone, is known as Rutilated Quartz.

Ametrine

Ametrine is an interesting, color-zoned combination of purple Amethyst and brownish-yellow Citrine.

Prasiolite / Green Quartz

Prasiolite, or Green Quartz, describes a light green Quartz artificially colored by heat treatment of certain types of Amethyst. May also be called "Green Amethyst" by some jewelers.

Blue Quartz

The blue variety of Quartz, which is uncommon in nature, is seldom used as a gemstone. Most "Blue Quartz" is clear Rock Crystal irradiated with gold to form a deep sky blue color. Blue Quartz may also refer to a dull grayish-blue Quartz in massive form with crocidolite inclusions.

Tourmalinated Quartz

Colorless Quartz with tourmaline inclusions, often as thin long black crystals, is known as "Tourmalinated Quartz".

Cat's Eye Quartz

Cat's Eye Quartz is Quartz with dense, tiny rutile inclusions that cause a cat's eye. It is not common, and the chatoyant effect is usually weak. Cat's Eye Quartz is usually grayish in color and translucent.

Source: Minerals.net

Final Thought: Knowledge has outstripped character development, and the young today are given an education rather than an upbringing.

- Ilya Ehrenburg