

THE ROCKET

November 2018

deadline for next issue
January 11, 2019

Club email: secretary.hrc@gmail.com
Newsletter email: Edrocket18@gmail.com

Next Meeting: Friday – November 23rd at 7PM
at Hastings Community Center Hall

Social: This is our annual Wine and Cheese Party, Please bring a small snack (finger food) to share at the meeting. The club will provide the wine.

Meeting: This is our Annual General meeting and we will be holding any elections needed for filling the executive for 2019.

We will also be deciding the theme for our 2019 show. Bring your ideas!

Programs:

We will have a sale of items from the lifetime collection of deceased, longtime rockhound and lapidarist Gordon Bower of Edmonton, given to us by his descendants, particularly Dianne Miller.

Workshop Hours

* Means a change for fall 2018

Lapidary:	Monday	6:30pm – 9:30pm
	Wednesday	1:00pm – 4:00pm
	Thursday	6:30pm – 9:30pm
	Saturday	1:00pm – 4:00pm
Metalwork:	* Monday	9am – 2 pm
	* Sunday	10:30am – 1:45 pm
Silversmithing:	Wednesday	9:00am – 12:00 noon
	Saturday	9:00am – 12:00 noon

Soapstone

Carving: Tuesday 6:45 pm – 9:30 pm
There is room for 10 people. Please contact Linda Foy before showing up for the first time.

METALSMITHING

At our October meeting, the program was Mike Ma sharing his metalsmithing techniques, samples and resources. He is creative, willing to experiment, and willing to share his knowledge. We are so fortunate to have this member and instructor or as he calls himself "Guardian of the Tools". *Thanks Crystal for the photos*



And a photo from a recent workshop

Photo: Mike Ma

PROJECTS

Editor's note: I hope to have a member's project in each edition. This is our newsletter and I would like it to be about our club. Do you know someone working on (or completed) an interesting project? Please let me know so we can feature their work in our newsletter.

I recently attended a Wednesday morning **Silversmithing** workshop to get some guidance from Marilyn. She was great with help and ideas. It's been awhile since I worked with soldering silver and I hope to get into it again. It was great to see the projects in progress and be inspired.

Here is some beautiful work by **Anna** on a Chinese lantern and flowers theme. She is getting ready some gifts for a family reunion. Lucky Family!



WE ARE CELEBRATING! Our Club is 60 this year.

Let's have a great turnout for our AGM and Social and keep our club vibrant. The program looks good too.

Upcoming Events of Interest:

Shows:

The following clubs are having shows and sales. For more information visit the BC Lapidary Society website or the club websites.

December 8, 2018, **Creative Jewellers Guild of BC**, VanDusen Gardens, Vancouver, BC

February 23 & 24, 2019, **Maple Ridge Lapidary Club Show**, Pitt Meadows, BC

March 16&17, 2019, **Hastings Centre Rockhounds Show**, Vancouver, BC

If you've been out **Rockhounding or on a Field Trip** in the last couple of years and have something to show we'd like to hear about it. You don't have to share your secret site but we'd like to know about your finds. If you do have a place you can tell us about we could have some great club sharing. If you know someone you'd like us to feature, tell me your suggestions and I'll follow up with them. Thanks, Roz (Editor). Edrocket18@gmail.com



Children's Creative Workshop: Volunteer Needed For our 2019 BC Gem Show

We are seeking a volunteer to organize the Children's Creative Workshop at the BC Gem Show, April 12-14, 2019 in Abbotsford (the CCW Organizer). The CCW Organizer does not need to be present at the show all 3 days, but would be responsible for the overall organization of this important show component. Here is a summary of this volunteer role:

The Friday of the show is free admission to school children accompanied by teachers, and is the busiest day. 3 people would be needed at the creative workshop table on Friday, with relief volunteers. Saturday and Sunday is not as busy, but at least 2 people would provide for relief breaks.

Contact with the schools must be made in early January of the year, advising the dates of the show. This can be done by going to the school district's website (Abbotsford #34 & Langley, #35) and clicking on the contact us link. The information is then sent to the teachers, who contact the organizer. A schedule must be set up for each class wanting to participate. Each time slot is ½ hour, starting at 10 AM, with a maximum of 35 children in attendance. Supervision of children using glue guns to make rock sculptures with beads, buttons, feathers, etc. is essential.

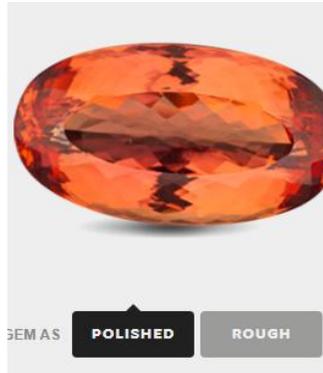
Each year at the end of the show, the CCW Organizer would need to take a rough inventory of supplies, including rocks. Anything needed for the following year should be brought up at the committee meetings. Glue sticks are required as well. Supplies are stored in the Gem Show trailer with reimbursement from the BCLS for any cost outlay.

At the show, the tables are set up for you. The glue guns must be plugged in before the first kids come at 10 AM, and a quick check to prepare for the first session.

Interested in helping the BCLS by volunteering your time for the CCW Organizer role? If so, please contact our Gem Show Chair, Maureen Parsley, at gemshowchair@gmail.com or by responding to this email.

Regards,
BCLS Show Committee

mailing address: British Columbia Lapidary Society, P.O. Box 254, Station A, Abbotsford, BC V2T 6Z6



Photos: <https://www.gia.edu/gem-encyclopedia>

Topaz is the traditional birthstone for November. There has been a lot of confusion over topaz over the centuries and many stones have been called topaz because they were a yellowish colour. In 1952 the Jewelry Industry Council of America added citrine as a choice for birthstone for November, primarily because of its golden tones and because it may have been one of the stones called topaz in the past. Blue Topaz is an alternate birthstone for December which we also cover with this newsletter, so Topaz seemed the best choice for this month's birthstone article.

Topaz is also the birthstone for Sagittarius, for those born on Sunday or those born at 4pm. Topaz is the traditional stone to celebrate a 19th anniversary. Blue Topaz has come to be used to celebrate a 4th anniversary and Imperial Topaz celebrates a 23rd anniversary and can be an alternate for a 50th (Golden Jubilee) anniversary.

The name Topaz comes from the ancient Greek name for St. John's Island – Topazios. In Roman times, Pliny the Elder used the island's name for a yellowish green stone found there. That stone is now believed to be a yellowish olivine, but the name topaz came to be applied to most yellowish stones. Other sources claim the word may have come from the Sanskrit word "tapas" meaning heat or fire which is again a reference to the commonly held idea that Topaz is yellow.

In reality, Topaz can be colourless, white, gray, blue (ranging from pale to dark), greenish, yellow, yellow-brown, orange, pink (ranging from pale to deep pink), tan beige and even red. A distinctly pinkish orange colour (some say golden orange with a pink undertone) is called Imperial Topaz. Pink and red stones are the rarest topazes and therefore the most valuable.

Pure topaz is colourless but impurities can tint it to almost any colour. Topaz is an aluminium silicate that contains fluorine. The chemical formula is $Al_2SiO_4(F,OH)_2$. Most Topaz grows as crystals within the veins and voids of igneous rock during the late stages of magma cooling when fluorine is released. Precipitating in cavities, topaz develops some well formed and often very large crystals. Topaz can also be found as worn pebbles in stream sediments.

<https://geogallery.si.edu/10002803/topaz> (from the Smithsonian Institution in Washington DC.)



Topaz is 8 on the Mohs scale and considered quite hard. For the lapidary though it does pose some challenges. Because of the way the crystals form and its chemical makeup it can be brittle and fracture along definite planes. Cleavage is perpendicular to the growth direction (shown by the termination point of the crystal). If the stone is water worn there may be flat sides showing where the crystal has cleaved. Attention to the cleavage signs when working the stone will help preserve the final product. Topaz is still attractive to work with because it is possible to get large gems from the large crystals and when cut correctly can make very wearable jewellery.

Imitations are often mentioned in these birthstone articles. In this case Topaz can be used to simulate other stones. Clear topaz has been substituted for diamonds. The topaz does not wear as well as diamond (10 on the Mohs scale), nor refract the light and look as brilliant as a diamond, but it will greatly reduce the cost of the jewellery.

A common treatment of topaz is irradiation and heat treatment to create a range of blues. Some think they look like aquamarine. The topaz though lacks pleochroism and looks a more definite blue with often a grayish tone.

Treating topaz has become widespread. Irradiating it does make it a bit radioactive and is strictly monitored in North America so that it is safe before selling. Before irradiation and heat treatments developed in the 1960's, blue topaz was rare and valuable. Now the price of blue topaz has fallen and they are among the least expensive gems. Heat treatments are also used to change some yellow, orange, and brown topaz to pink or red. This procedure is common, stable, and undetectable. Mystic topaz is created by coating usually a colourless topaz with a metallic oxide to produce an iridescent effect. The coating may not be very durable.

This leads us to consider care of topaz jewellery. The best care is just warm soapy water. Never use an ultrasonic cleaner or steamer. Protect the stone from rapid changes in temperature. Some say a topaz can start to lose its colour if kept in the sun or exposed to other kinds of heat. As mentioned earlier, a topaz can crack so guard against dropping the stone. Abrasive cleaners may remove some coatings.

Aside from the consideration of substitutes and treatments of Topaz, some topaz is considered quite valuable. The rare and unusual natural colours are prized, such as Imperial Topaz. The name may have come from the Russian royal family who kept the best colors of this gem mined in Russia's Ural Mountains. Brazilians claim that the name comes from a gift given to Brazilian Emperor Pedro II on an 1881 visit to Ouro Preto which is near Brazil's most productive topaz mines.

Topaz has a connection with other rulers. During the medieval age small yellow topaz was mined in Saxony Germany and worn by several rulers. Topaz was one of the stones in the Breastplate of Aaron (though that may have been another yellow stone) and is one of the stones in Revelations. Amongst the Greeks the topaz was linked with Apollo and in Egyptian times it was the symbol of Ra, the Sun god.

With this ancient history of Topaz also comes beliefs and superstitions about the stone's "powers". Topaz is often associated with wealth, especially if mounted in gold. Worn on the left arm it was believed to protect the wearer from evil spells and the greed of others. It was also believed to relieve arthritis pain, improve digestion, aid weight loss and attract love. Some believed it could cure dim vision (if soaked in wine for three days and nights then rubbed on the eyes) and others thought the stone could make its wearer invisible. Some thought it could prevent nightmares and cure madness. Some thought a topaz in the home could prevent accidents and fires while some even thought it could absorb the heat of a fever. Blue topaz was believed to be able to cool boiling water.

Topaz can be found around the world but the most important sources are Brazil and Sri Lanka. In The US it is found in New Hampshire, Texas, Colorado California and Utah. It is the state stone of both Texas and Utah. Within BC topaz is found near Atlin and Bennett and possibly in the Cassiar area.

Tanzanite is the modern birthstone for December



Rough crystals

<http://www.bernardine.com/gemstones/tanzanite.htm>

Most of the birthstones covered in 2018 have been traditional birthstones used sometimes for centuries. They have also been generally crystals, transparent and precious. Lapis Lazuli or Turquoise is a traditional birthstone for December, but they are not transparent and they are less precious than Tanzanite so Tanzanite is chosen for this year.



Cut stones

<http://www.bernardine.com/gemstones/tanzanite.htm>

Next year we'll look at some of the alternate birthstones for each month.

Tanzanite is so modern that none of the zodiac signs, days of the week or hours of birth claim it as a birthstone. Tanzanite is considered a 24th anniversary stone and is an alternate for the 8th anniversary.

Masai tribesman Ali Juuyawatu is credited with finding the first tanzanite crystal in 1967. The legend is that Masai cattle herders noticed the blue stones on the ground after a fire caused by lightning in their area of Tanzania. They told local prospector Manuel d'Souza and he registered claims thinking he was mining sapphire (but some say he thought it was peridot or dumortierite). Samples were sent away for analysis to John Saul in Nairobi. He sent samples to Hyman Saul at Saks Fifth Avenue in New York. Ian McCloud, a geologist with the Tanzania government was the first to identify the stone correctly as a vibrant blue variety of zoisite, a mineral identified in the early 1800s in Germany. In New York, Tiffany and Co. saw some samples and were the first to make and market jewellery with the stone. The story is that Tiffany's thought the name "zoisite" sounded too much "suicide" so in 1968 when they launched their first campaign they re-named the stone "Tanzanite" in honour of the country where it is from, and the only known source. Tanzanite turned 50 in 2018.

Tanzanite is rare because it is found and mined in a small area only four kilometers wide and two kilometers long at the foot of Mount Kilimanjaro in the Manyara Region of Northern Tanzania. Estimates are that at the current rate of mining, the supply will be depleted in the 25 to 30 years. For this reason some marketing calls it the "stone of a generation."

Zoisite (and therefore Tanzanite) is mostly found in areas of metamorphic rock like hornfels and gneiss. Occasionally it is also found in granite pegmatites. The chemical formula is $\text{Ca}_2\text{Al}_3(\text{SiO}_4)_3(\text{OH})$. The mineral zoisite is found naturally in a wide range of colours: colourless, gray, yellow, brown, pink, green, blue, and violet. In its rough state tanzanite is colored a reddish brown to clear and occasionally blue. Heat treatment removes the brownish "veil" and brings out the blue violet colours of Tanzanite. Occasionally blue stones are found –like those first samples– but they are rare and assumed to have been heat treated by some natural force. The colour from heat treatment is stable and accepted in the gem industry. The most prized trait of Tanzanite is its colour, especially deep blue with violet. Paler shades are less expensive.

Having a different name for a variety of mineral with a specific colour is not unusual. Ruby is used for red corundum, other colours are called Sapphire. Amethyst is used for purple quartz and Emerald is used for green beryl. There are many other examples of both those minerals that when different colours they are not called amethyst or emerald. Tanzanite is the blue to violet variety of Zoisite.

Tanzanite is called pleochroic (2 or more colours) and can be trichroic (three colours). The colours are displayed when viewed from different angles. Lighting can also affect the colour. Under cool fluorescent light the blues are evident and under warm incandescent light the violet to purple hues are better seen.

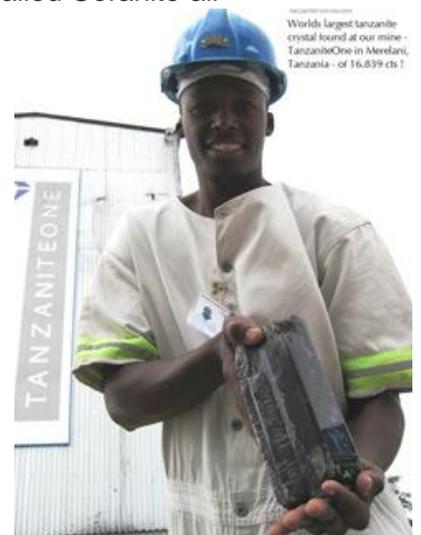
At 6 to 6.5 on the Mohs hardness scale, and because it has perfect cleavage from one direction, Tanzanite could chip or break if it gets a sharp impact. Sudden temperature changes also make breaking a possibility so cleaning should only be warm water and mild soap, never steam or ultrasonic cleaning methods.

Pleochroism impacts lapidary considerations. For the gemcutter, planning is required to cut tanzanite so it gives the colour and change of colours preferred. Sometimes a gemcutter will cut a smaller stone to get a more valuable colour display. Because of its perfect cleavage the gem cutter also needs to take care to prevent chipping. Lesser quality stones are occasionally cut into cabochons.

Tanzanite is used in pendants, necklaces and earrings and less commonly in bracelets and rings because it is prone to scratches and should not get sudden, sharp or hard impacts. Designs for jewellery using tanzanite should protect the stones from these concerns.

Synthetic tanzanites are not yet known, but some imitations do exist. Blue glass, the synthetic garnet called Tanavyte, synthetic Forsterite and a synthetic blue corundum called Coranite all resemble tanzanite. A gemmologist can spot the differences. One article claimed that all the imitations are fluorescent under ultra violet light. Tanzanite does not fluoresce.

According to the Tanzanite foundation (<http://www.tanzanitefoundation.com/about-tanzanite/ten-fascinating-tanzanite-facts/>), the largest known rough Tanzanite crystal was found in 2005 and is 16,839 carats (over 3.3 kg or 7.4 pounds). Most faceted tanzanite weighs less than five carats but the Smithsonian Institute has a 122.7 carat faceted stone. Tiffany's has one of the largest displays of tanzanite.



Also, according to the Tanzanite Foundation, the “Heart of the Ocean” worn in the movie Titanic, was really a Tanzanite, not a blue diamond. Blue diamonds just don’t get as deep a blue as that stone in the movie.