

HUI PŌHAKU 'Ō HAWAII

Rock & Mineral Society of Hawai'i, Inc.



Meeting Times

MEETING

Wednesday
April 22, 2015

6:15-8:00 pm

Makiki District Park
Admin Building

NEXT MONTH

LAPIDARY

Every Thursday

6:00-8:30pm

Makiki District Park
2nd floor Arts and
Crafts Bldg

MEMBERSHIP

DUE COSTS 2015

Single: \$10.00

Family: \$15.00

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P.O. Box 23020

Honolulu, HI

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Blue—Green Minerals By Dean Sakabe

The topic for April is "Blue Green" Minerals. First off I am probably the last person to talk about this subject, because I treat colors just like a basic 8 crayon box. If shown something and asked what color it is, I would just say Blue or Green, not Bluish Green, nor Cyan, nor Teal (which for me is a bird). So that being said we are looking for minerals which lie between 475 – 500 nm range.

The first mineral will be Aquamarine, this blue varietal of Beryl (Beryllium Aluminum Silicate), is also found with greenish tones. The color depends upon the concentration of Iron impurities in conjunction as to where the iron impurities are located within the beryl crystal structure. Some of the green Aquamarines will turn a nice blue with proper heat treatment, the heat driving out the green from

the Aquamarine. Oddly enough irradiating the same stone can reverse this process and restore the greenish color. Why anyone would want to do this, who knows, however it can be done. One of the largest known Aquamarine crystals was found in Brazil in the 1920's. It was 19" long and 16" wide, weighing in at an incredible 243 pounds, yes pounds, not carats.



Aquamarine,
Minas Gerais, Brazil



Elbaite, Minas Gerais, Brazil

Elbaite belongs to the Tourmaline group. Elbaite is also a mineral with a very broad

Blue—Green Minerals

range of colors, as the various impurities impart a different color in the Elbaite. They range from white on thru to black. Sometimes the crystals are multicolored, possessing two or more distinct colors (i.e watermelon tourmalines), addition to being pleochroic. Elbaite was originally discovered on the island of Elba, Italy in 1913, where upon Elbaite name is derived from. The Brazilian and Nigerian Indicolites can be found in very nice blue-green hue.

Smithsonite is a Zinc Carbonate, which belongs to the Calcite Group. Smithsonite is named in honor of James Smithson, the founder of the Smithsonian Institution. When the Zinc is partially replaced by other minerals we get different colors of Smithsonite. Copper is responsible for green to blue coloring, Colbalt causes a pink to purple color, Cadmium makes Smithsonite yellow, and iron gives it a brown to reddish-



Smithsonite, Sinaloa, Mexico

brown color. Although Smithsonite occurs in Crystal forms it is normally it is found in Botryoidal form.

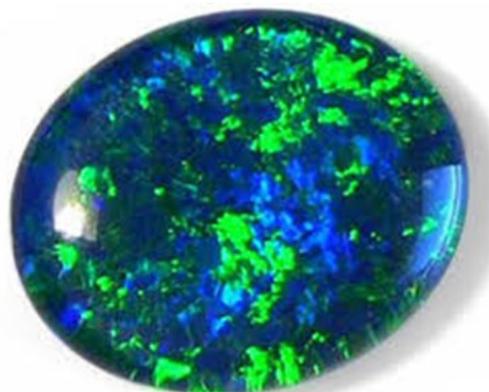
Chrysocolla is a Hydrated Copper Silicate. Named from the Greek chrysos - "gold" and kolla - "glue" in allusion to the name of the material used to solder gold. Chrysocolla is mostly found in massive forms, however it also occurs as crusts, as Stalactites, or Botryodially. Chrysocolla if found by itself is relatively soft and fragile (or brittle). However Chrysocolla formed with Chalcedony (or

Quartz) becomes a very hard and interesting Lapidary material.

Opal, this simple hydrated form of Silica, is found all over the world. Even in young places like Hawaii, Opal can be found in the vesicles of Lava. Albeit it is white common opal, but it is still opal. The Opal we are talking about in this case is the outstanding Black Opal from Lightning Ridge, Australia. The Reds are most coveted and beautiful. But not to be outdone are the flashes of



Chrysocolla with Quartz, Pisco Umay, Peru



Opal, Lightning Ridge, NSW, Australia

Blue—Green Minerals



Apatite on Calcite, Wilberforce, Ontario, Canada

intermixed Green and Blue's which can also be found in the second tier of Opals.

Apatite is a Calcium Phosphate, which also happens to be the same material that bones and teeth are composed of. In this case we are talking about the gemmy version. So much so that it is named for the Greek word "Apatē" which means "Deceit". This is because cut Apatite was passed off as other valuable gemstones such as Peridot, Beryl, and in its blue green form, Apatite has an appearance similar to tourmaline.

Please note that Apatite is found in yellow, blue, green, pink, purple, violet, clear, and cat's eye. The problem with this stone is that it is relatively soft, possessing only a hardness of 5.

Flourite has been referred to as "the most colorful mineral in the world". Flourite comes in just about every color, in addition to fluorescing in many other colors under both long and short wave UV lights. Flourite can be similar to the softer Calcite and the harder Apatite.



Apatite, Beira Baxia, Brazil



Flourite, Xianghualin, Mine, Hunan, China

WE HAVE A FACEBOOK PAGE! LET'S GO LIKE IT!

[HTTP://WWW.FACEBOOK.COM/PAGES/ROCK-AND-MINERAL-SOCIETY-OF-HAWAII/103902329673700?v=wall&ref=sgm](http://www.facebook.com/pages/Rock-AND-Mineral-Society-of-Hawaii/103902329673700?v=wall&ref=sgm)

MAHALO TO MARKUS FOR ESTABLISHING OUR *ROCK FACE!*

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Newsletter Editor

The Rock & Mineral Society meets on the 4th Wednesday of each month (except for adjusted dates in November and December) at the Makiki District Park, 6:15-8 pm. Enter from Keeaumoku Street. Parking is free but limited.

The Newsletter is published monthly, some days prior to the meetings and is distributed in electronic format by email (Adobe Acrobat PDF file attachment). Printed copies are "snail" mailed to those who do not have email. The electronic format usually contains full-color images; the print version may be limited to B&W due to reproduction costs.

DOOR PRIZES

Please note that we have instituted door prize drawings at our monthly meetings. Because of Hawaii's gambling laws, these drawings cannot be conducted in the common "raffle" format where tickets are sold. Rather, each *paid* member attending the meeting will receive a drawing ticket upon request. A voluntary donation of \$1.00 is requested and encouraged. Drawings will be conducted at the end of the meeting with available prizes awarded in random order. You must be present to win. Please remember: if you win a prize, please bring one to the next meeting. This helps to keep our drawings going. Thank you.

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