HUI PŌHAKU 'O HAWAI'I
Rock & Mineral Society of Hawai'i, Inc.

Meeting Times

MEETING
Wednesday
September28
6:15-8:00 pm
Makiki District Park
Admin Building

NEXT MONTH
Pearls
October 26

LAPIDARY
Every Thursday
6:30-8:30pm
Makiki District Park
2nd floor Arts and Crafts ldg

MEMBERSHIP
DUE COSTS 2011
Single: $10.00
Family: $15.00

© Rock & Mineral Society of Hawai`i, Inc.
P.O. Box 23020
Honolulu, HI
96823-3020

Blue Minerals
By Dean Sakabe

September's theme is "Blue Minerals", which just about everyone has and encompasses at over a hundred recognizable minerals, along with another couple of hundred unfamiliar minerals. At the top of the Blue minerals is the Hope Diamond. This blue diamond is on the must-see list of things whenever anyone is in Washington DC. Similarly, the blue sapphires, whether it be the blue Burmese Sapphires or Cornflower Blue Sapphires from Yogo Montana, we know and love these. So below are other blue minerals which we can also enjoy, if we can manage to see them.

Paraiba Tourmalines, these cupriferous tourmalines from the Mina da Batalha in the Federal Brazilian State of Paraiba are small, very rare, and vibrant blue to green. It was discovered by Heitor Dimas Barbosa in the 1989, in the hills of the Federal Brazilian State of Paraiba.

Paraiba Tourmaline, Mina da Bataiha, Paraiba, Brazil

Blue Minerals

Normally iron, manganese, chrome and vanadium are the elements responsible for the color in tourmalines. The Paraiba tourmaline is different: it owes its color to copper and a little bit of manganese. The interplay between these two elements gives rise to a variety of colors: emerald green, turquoise to sky blue, sapphire blue, indigo, bluish-violet, and purple. Certain proportions in the mixture of copper and manganese can also result in pale grey to violet-blue tones. Copper in high concentrations is responsible for the radiant blue, turquoise and green hues. Violet and red tones are caused by manganese.

Paraiba tourmalines are almost always quite small, since the cuprous tourmaline crystals from Paraiba were almost all fragments when they were discovered. Larger raw stones with a weight of over 5 grams which had not cracked were rare. Only a few crystals had a weight exceeding 20 grams. Paraiba Tourmalines were also found in very small quantities, After combing the entire hills in that area, no more were found, so what is there is all that there is, hence they command an outrageous price because there are no more.

Turquoise may have come from the French word for Turkey, “Turquie”, because of the early belief that the mineral came from that country. Turquoise was first mined in the Alimersai Mountain in Persia (now Iran) and the Sinai Peninsula in Egypt. Turquoise is a hydrated phosphate of copper and aluminum, it is usually found in the "alteration zones," of arid or desert regions. This hydrothermal alteration was created by magma solutions from deep in the earth that were forced to the surface through fractures or pores which eventually changed the original rocks. However if there is copper, phosphorous, and feldspar present turquoise could form. The hydrothermal alteration breaks down the feldspars and frees the aluminum. The phosphorus usually comes from phosphoric acid. Copper is usually introduced into the "host" rocks by the rising hot magma. The copper then oxidizes near the surface and reacts freely with the aluminum and phosphoric acid to form turquoise.

Sleeping Beauty Turquoise, Globe, Arizona

At this time, other minerals enter into the turquoise structure and create color variations. The introduction of iron, calcium, magnesium, manganese, silicon, or Zinc influences its color and hardness. The color of turquoise can vary from a deep blue to a deep green, with every variation of color in-between. Generally, the more copper in the molecular structure, then the bluer the turquoise. Iron causes the greener color of the stone.

Blue Minerals

Lapis lazuli or Lapis for short is mostly lazurite but commonly contains pyrite and calcite. The name means "blue rock" and it is always a brilliant blue with violet or greenish tints. The rich blue color is due to the sulfur that is inherent in the structure of Lazurite. Small crystals of pyrite are usually present in lapis and their brassy yellow color is both attractive and distinguises lapis from its blue cousin - Sodalite rock, which lacks pyrite. The calcite produces white streaks in the lapis. Too much calcite will lower the value of the stone.

Lapis Lazuli, Badakhshan, Afghanistan

Lapis lazuli has been mined for centuries from the same locality still in use today: the remote mountain valley of Kokcha, Afghanistan. First mined 6000 years ago, the rock was transported to Egypt and Persia, then later to Europe where it was used in jewelry. Although Lapis is found in other localities, the source in Afghanistan still produces the finest quality material.

Benitoite, San Benito County, California

Benitoite, a Barium Titanium Silicate, is named after San Benito County, California where it was discovered in 1907. It has a sapphire-blue color, which caused it originally to be viewed as a variety of sapphire. However, it was later found to be a new mineral (along with Joaquinite and Carlosote). Benitoite is found in association with the minerals neptunite, natrolite and joaquinite, is formed from hydrothermal solutions in a natrolite dike in the green schist of the serpentine parent rock. Benitoite is the first species known to crystallize in the ditrigonal dipyramidal class of the hexagonal crystal system.

Aquamarine is a greenish-blue Beryl, whose name is latin for sea water. Aquamarine gets its color due to trace amounts of iron impurities in the beryl structure. The color ranges from pale green to pale blue to blue depending on the concentration of

Blue Minerals

Aquamarine, Marambaia, Minas Gerais, Brazil

the iron and where the iron impurities are located within the beryl crystal structure. Aquamarine is typically associated with quartz, feldspars and muscovite, and often occurs with other common pegmatite minerals such as biotite, garnet, phenakite and topaz. Aquamarine have also been found in incredible sizes and quality. One of the largest known crystals, was found in Brazil in 1920. It was 19"long and 16" wide and weighed 243lbs.

Chrysocolla, Ray Mine Pinal Co.Arizona

Celestite a Strontium Sulfate derives its name from the Latin term caelestis which means (of the sky) and refers to the blue color commonly observed in Celestite. The blue color of Celestite has been attributed to trace amounts of gold. Celestite is usually found within the cavities in sandstone or in limestone, as crystals or as geodes.

Chrysocolla, a hydrated copper silicate, can be colored blue to greenish blue and green, often streaked with black, sometimes all of these colors. Chrysocolla's name is derived from the Greek chrysos - "gold" and kolla - "glue" in allusion to the name of the material used to solder gold. Chrysocolla is commonly found in massive forms that are crusts on other minerals, as stalactites or botryoidal masses.

Cordierite, whose gemstone varietal name of Iolite is unusual. Meaning it has a blue-violet color and it is also pleochroistic. View the gem from one direction and you will see a blue to blue-violet color. However rotating the crystal or gemstone to another direction will give a yellowish gray to light blue color. The bluish color is also why the gemstone was sometimes called "Water Sapphire".

Blue Minerals

Cordierite, Espirito Santo, Brazil

Kyanite is a polymorph of two minerals; andalusite and sillimanite. Meaning it shares the same chemistry but a different crystal structure with another mineral. Kyanite can be an attractive mineral that has a near sapphire like blue color. It also has a unique characteristic in that it has a wide variation in hardness, within the same crystal. The hardness of Kyanite is approximately 4.5 when scratched parallel to the long axis of the crystal and approximately 6.5 when scratched perpendicular to or across the long axis. Most of the Kyanite comes from Brazil, however it can also be found in North Carolina, Georgia, and India.

Kyanite, Minas Gerias, Brazil

Left: 502-ct Burmese sapphire crystal. Unearthed on Feb. 22, 1994, at Khabine, near Gwebin, in Burma's Mogok Stone Tract.
Right: The base of the crystal, showing concentrations of silk.

HUI PŌHAKU 'O HAWAI'I

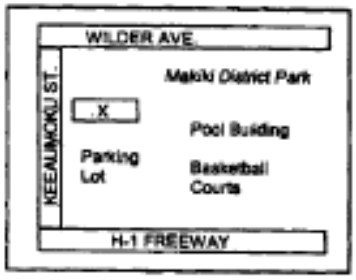
Rock & Mineral Society of Hawai'i, Inc.

Established in 1970, the **Rock & Mineral Society of Hawai'i, Inc.** is a non-profit, educational organization dedicated to mineral and rock collecting and appreciation.

The group meets on the fourth Wednesday of each month at the Makiki District Park on Keeaumoku Street in Honolulu from 7:00 to 9:00 pm. The public is invited to attend any **single meeting** as guests. Parking is free but limited. Membership is open to all ages, including non-residents.

The benefits of membership include:

- Attendance at informative monthly meetings.
- Monthly newsletter, either a printed copy or electronic distribution via email.
- Access to a well-equipped lapidary shop, available on Thursday evenings periodically throughout the year. Classes and training in lapidary techniques provided by experienced club members.
- Rockhounding field trips to various locations around the islands.
- Participation in club-sponsored shows and exhibits, where members can display and/or sell minerals, rocks, fossils, and lapidary items, including jewelry.
- Networking with other members to exchange ideas and information.



For more information:
President - Faye Chambers (808) 226-8478
Vice-President/Lapidary - Dean Sakabe : (808) 535-5012

********************** MEMBERSHIP APPLICATION FORM ***********************

Membership for calendar year: ___ Single $10.00 ___ Family (2+) $15.00 ☐ New ☐ Renewal

Name(s) (please list childrens' names and ages):_____

_____

_____

Mailing address: _____

_____

City: _____ State: _____ Zip: _____

Phone Number(s): _____

Email address: _____

Please send the monthly newsletter: ___ via email (PDF file) ___ printed copy via regular mail

Special Interests: ___ Lapidary ___ Faceting ___ Thumbnails ___ Micromounts ___ Fossils ___ Other

Please make check payable to: **Rock & Mineral Society of Hawai'i, Inc., P.O. Box 23020, Honolulu, HI 96823-3020**

RMSH Use Only:

Received by: _____ Date received: _____

Amount received: $ _____ Method of payment: ☐ Cash ☐ Check #_____ Receipt given: Y/N

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
MAHALO TO MARKUS FOR ESTABLISHING OUR *ROCK FACE*!

Officers

President

Faye Chambers

cateyes@hawaii.rr.com

Vice President/Admin.

Ed Sawada

Vice President/Lapidary

Dean Sakabe

(808) 526-6347

Treasurer

Debbie Iijima

539-4552 (day)

Secretary

Jade Emory

Newsletter Editor

Elise Thomasson

elise.thomasson@gmail.com

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.

Parking at Makiki Park
Parking along Keeamoku St. starts at 5:30

After that, good luck because it drops off really fast!

See you at the Hawai'i Rock and Mineral Show 2011

October 8 & 9
Outrigger on the Beach Hotel, Waikiki
Upper Lobby
11 am to 7 PM

FREE ADMISSION!

This is the only mineral show in Hawai'i, with minerals and gems stones in one location that can be found nowhere else on the islands.

http://www.pohakugalore.net/HI_Rock_Mineral_Society.html

Have an idea for the newsletter?

We welcome all articles and ideas, and we want to make you a contributor. Feel free to send your idea to elise.thomasson@gmail.com. It would be wonderful to share stories, pictures, tips and tools.

HUI PŌHAKU 'O HAWAI'I
Rock & Mineral Society of Hawai'i, Inc.

P.O. Box 23020

Honolulu, HI 96823-3020