

HUI PŌHAKU 'Ō HAWAII

Rock & Mineral Society of Hawai'i, Inc.



Meeting Times

MEETING

Wednesday

September 26

6:15-8:00 pm

Makiki District Park

Admin Building

NEXT MONTH

October 24

Fluorescent Minerals

ROCK SHOW

October 13-14

Hawaii Outrigger

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

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Fluorites

By Dean Sakabe

Fluorite could be termed as the world's most colorful mineral. Purple is the most popular color of Fluorite, which easily competes in beauty with the varieties of Amethyst. A brown variety found in Ohio has a distinctive iridescence that improves an otherwise poor color for fluorite.

Fluorite occurs with a glassy luster, and the vast array of colors includes trademark purple, blue, green, yellow, brown, pink, black, red, and colorless. The clear cubic Russian Fluorites are especially nice. A picture would have been included in the newsletter, but colorless does not show up on newsletters too well.

The origin of the word "Fluorite" comes from the use of fluorite as a flux in steel and aluminum processing, but it is still referred to as "fluorospars" by miners. Fluorite is also used as a source of fluorine for hydrofluoric acid and fluorinated water. The element fluorine also gets its name from fluorite. Other uses of fluorite include use as a protected gemstone (low hardness and good cleavage reduce its use as a gemstone), and ornamental carvings.

Fluorite, Koksha Valley,
Badakhshan, Afganistan

Fluorite is the most popular mineral to collect second to quartz. Just about any mineral collection will have a specimen of Fluorite.

Most Fluorite specimens have a single color, however a significant percentage of Fluorites have multiple colors, with the colors arranged in bands or

zones corresponding to the shapes of the fluorite's crystals. In other words, if the Fluorite is a cube, then the color zones are in a cubic arrangement. This creates an effect is similar to phantomed crystals, where the



Fluorites

Fluorite, Papashacra Mountains, Catamarca, Argentina



(left) Fluorite, El Gaudro Mine, La Rioja, Argentina

crystal has crystals within crystals that are of differing colors. A Fluorite crystal could have a clear outer zone allowing a cube of purple Fluorite to be seen inside.

Fluorite, Mt Cleveland Mine, Tasmania, Australia

Fluorite is also fluorescent and, like its “normal light” colors, its fluorescent colors are also extremely variable. Fluorite typically fluoresces blue, however other fluorescent colors include yellow, green, red, white and purple. Some specimens have the added effect of having a different color under longwave UV light versus its color under shortwave UV light. There are also varieties of Fluorite that will phosphorescence in a third color.

The blue fluorescence has been attributed to the presence of europium ions. Yttrium is the activator for the yellow fluorescence. Green and red fluorescent activation has not been isolated to any one element, but it may be due to manganese or uranium, or a combination of those two. Incidentally, the word fluorescent



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(Continued from page 2) Fluorite, Bockstein Duct, Salsburg, Austria

was derived from fluorite since specimens of fluorite were some of the first fluorescent specimens ever studied.

Another unique property of fluorite is its thermoluminescence, which is the rare ability to glow when heated. A variety that demonstrates this is Chlorophane. It will even thermoluminesce while the specimen is held in a person's hand where it is activated by the person's own body heat. It will show green to blue-green, but once seen, the glow will fade away and can no longer be seen in the same specimen again. It is essentially a one-shot deal. Chlorophane (which means *to show green*) can be found in Franklin, NJ, Spruce Pine, NC, Mont Saint-Hilaire, Quebec, Canada, and Nerchinsk in the Ural Mountains, Russia.

Fluorite has other qualities besides its great color assortments that make it a popular mineral.



Fluorite, Rock Candy mine, British Columbia,

Fluorite has different crystal habits that always produce well-formed, good, clean crystals. The cube is by far the most recognized habit of Fluorite. This is followed by the octahedron which is believed to form at higher temperatures than the cube. Although the cleavage of fluorite can produce an octahedral shape and these cleaved octahedrons are popular in rock shops the world over, the natural (e.g. uncleaved) octahedrons are harder to find.

The Octahedral cleavage means that it has



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Left, Fluorite, Minggang Mine, Henan Province, China

four identical directions of cleavage and when cleaved in the right ways can produce a perfect octahedral shape (think double pyramid). Countless octahedrons are produced from hopefully large undesirable crystals of Fluorite and are sold in rock shops and gift shops all around the country. Fluorite mine workers are reported to sit down at lunch breaks and cleave the octahedrons for the extra cash.



Fluorite, Minggang Mine, Henan Province, China

Fluorite occurs throughout the world, but only a handful of localities have produced large quantities of high quality Fluorite. England has produced some of the finest specimens, in areas such as Durham, Cornwall, Cumberland, and Derbyshire. Pink octahedrons have been found in Göschenen, Switzerland. Fine crystals were also found throughout Spain, Peru, Russia, Kazakhstan, Germany; Hunan Province, China; and Tuscany, Italy. Fluorite can be found in Wilberforce, Ontario, Canada. Mexico is producing specimens, from Mapimi, Durango, Niaca, Musquis, and Chihuahua.

The U.S. has also had many fine localities, such as the Illinois counties of Hardin, Rosiclare, and Cave In Rock. Additionally deposits have been found in Kentucky, Ohio, Missouri, Tennessee, New Mexico, Colorado, New York, and New Hampshire.

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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!*

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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 Keeaumoku St. starts at 5:30

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

Rock Show! Rock Show!

October 13-14

Hawaii Outrigger Hotel

Find out more at the next Rock Club Meeting September 26



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