

HUI PŌHAKU 'Ō HAWAII

Rock & Mineral Society of Hawai'i, Inc.



Meeting Times

MEETING

Wednesday
October 26, 2016

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

NEXT MONTH

Minerals from
Australia

LAPIDARY

Every Thursday
6:30-8:30pm
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
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Fluorite By Dean Sakabe

October's mineral is Fluorite. Fluorite is one of the most popular minerals to collect. It is second only to Quartz. This means that just about anybody who collects minerals is bound to have a Fluorite specimen.

Fluorite could possibly be the world's most colorful mineral. These colors range from purple, to blue, green to yellow, brown, black, pink to red, and not to be out shown by the others colorless.

The most popular color of Fluorite is Purple, in which it is comparable to the purple of Amethyst. A brown variety found in Ohio has a distinctive iridescence that improves an otherwise poor color for Fluorite. Colorless varieties of Fluorite are found in Russia.



Calcium Fluoride, Du Burg mine,



Fluorite, Mina El Tule, Coahuila, Mexico

The origin of the word Fluorite comes from the use of fluorite as a flux in steel and aluminum processing. The element Fluorine gets its name from fluorite. It was originally referred to as "fluorospar" by miners. Fluorite is also used as a source of Fluorine for hydrofluoric acid and for the ever popular fluorinated water.

Most Fluorite specimens have a single color, however luckily (or unluckily depending upon how you view it) there exists with Fluorite a significant percentage of specimens with multiple colors.

Fluorite

These colors are usually arranged in bands or zones corresponding to the shapes of the fluorite's crystals. In other words, Fluorite being mainly cubic, will have the color zones are in cubic arrangement. This effect is similar to phantom quartz. A Fluorite crystal could have a clear outer zone allowing a cube of purple Fluorite to be seen inside.



Fluorite, Xianghualin Mine, Hunan, China

Fluorite is also fluorescent and like its "day light" colors, its fluorescent colors are also extremely variable. Fluorite typically fluoresces blue, however other 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. Additionally there are varieties of Fluorite which will phosphorescence in a third color under midrange UV light.

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. However it may be due to manganese or uranium, or a combination of those two. Incidentally, the word fluorescent 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 ability to glow when heated. However, it is rare for Fluorite to do this. A variety of fluorite called "Chlorophane" can demonstrate this property.

It will even thermoluminesce while the specimen is held in a person's hand activated by the person's own body heat. It will show green to blue-green, once seen, the glow will fade away and can no longer be seen in the same specimen again. It is 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 has a crystal habit that just about always produce well formed, good, clean crystals. The cube is the most recognized habit of Fluorite. This is followed by the octahedron which is thought to form at higher temperatures than the cube. Although the cleavage of fluorite can produce an



Fluorite, Xianghualin Mine, Hunan, China

Fluorite

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 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 large crystals of Fluorite and sold in rock shops and gift shops all over the place.

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.



Fluorite, Cave-in-Rock, Hardin Co., Illinois



Fluorite, Elmwood mine, Smith Co. Tennessee

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.



Fluorite, 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
 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.

Rock & Mineral Show



**FREE
ADMISSION**

October 22-23, 2016 • 10:00 am - 5:00 pm • Outrigger Waikiki Beach Resort- Leahi Room



Special displays and dealer sales
 Rocks * Minerals * Gems * Jewelry
 Lapidary * Fossils * Meteorites & More!



We can also help identify your mineral & fossil specimens.

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