

HUI PŌHAKU 'Ō HAWAII

Rock & Mineral Society of Hawai'i, Inc.



Meeting Times

MEETING

Wednesday

6:15-8:00 pm

Makiki District Park

Admin Building

NEXT MONTH

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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P.O. Box 23020

Honolulu, HI

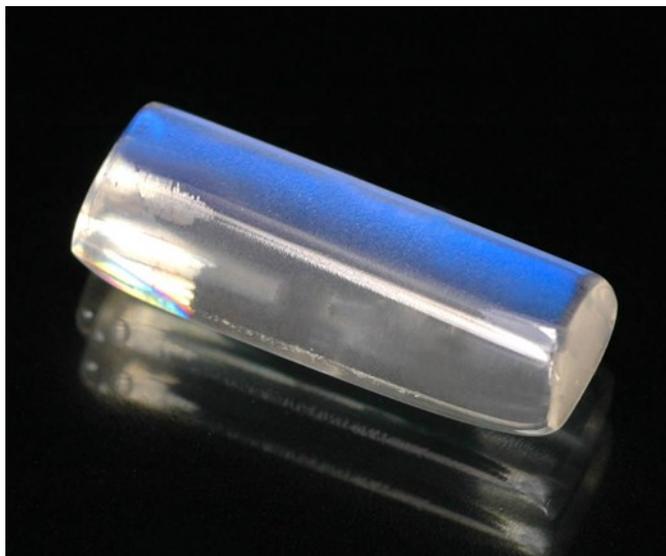
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Essence By Dean Sakabe

For this first newsletter of 2013, I thought I'd write about a short and sweet topic that would inspire people to show a lot of mineral samples: Essences. I originally thought about something like Opalescence or Adularescence. However the more I looked into these short topics, the list kept growing, and growing. So I did what came naturally, I stopped looking for more. Here is a short list of different effects found in minerals.

Moonstone or "Adularia," is a feldspar which was originally named for a mining site at Mt. Adular, in Switzerland. From this we derive the term **adularescence**: The optical phenomenon of iridescence which creates a billowy, floating blue to white light characteristic in this gem. The adularescence is due to diffraction of light as it hits thin, alternating layers of orthoclase and albite within the gem. The very thin layers produce blue "schiller" and thicker layers produce white.

Moonstone is usually cabbed with a high dome which accentuates the adularescence. Additionally there are specimens displaying cat's eyes effects. Asterism is rare in moonstone, however when it does occur, the star is four-legged.



Rainbow Moonstone

Something called **aborescence** resembles a tree or the figure of a tree. In other words, this is Dendrites. We see these on the sides of Jasper encased in various Agates and Quartz's,

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Aventurescence, is a optical reflectance effect seen in certain gemstones. The effect amounts to a metallic glitter, arising from minute, mineral platelets within the material. These platelets are so numerous that they also influence the material's body color. In aventurine quartz, chrome-bearing fuchsite makes for a green stone, various iron oxides make for a red stone. A particular feldspar from Oregon (Sunstone), exhibits this effect due to reflections of red copper inclusions within the stone. These minute scales are clumped together in the clear feldspar to produce a shiller effect. Goldstone is a manufactured glass made as an imitation of aventurine quartz and aventurine Feldspar (sunstone).



Aventurine

Chatoyance or cat's eye effect, is an optical reflectance effect seen in certain gemstones. Coming from the French "œil de chat," meaning "cat's eye," chatoyancy comes from either fibrous structure, like Tiger Eye Quartz or fibrous inclusions (or cavities) within the stone, as in Cats Eye Chrysoberyl. For a best effect of this

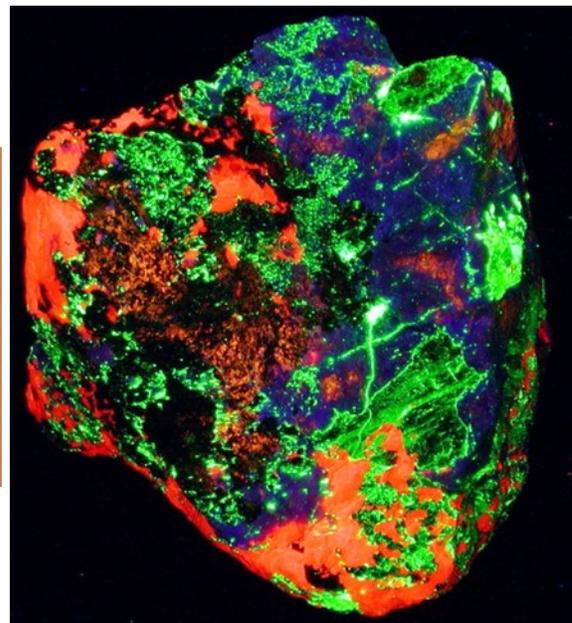
in gemstones, it is best to cut the stone as Cabachons, with the fibers parallel to the base of the finished stone. Gem species known for this phenomenon include Tiger's Eye Quartz, Chrysoberyl, Beryl (especially Aquamarine), Tourmaline, Apatite, Moonstone, and Scapolite.

Fluorescence is the emission of light by a substance that has absorbed light. In most cases, the emitted light has a longer wavelength, hence lower energy than the absorbed radiation. In our case we like the occurrence of fluorescence which occurs when the absorbed radiation is in the ultraviolet region with the emitted light in the visible region. Especially short wave light upon Franklin, NJ specimens.

Hardystonite, Clinohedrite, Calcite, and Willemite, Franklin, NJ right displays Fluorescence



Covellite, Butte, Montana displays Iridescence



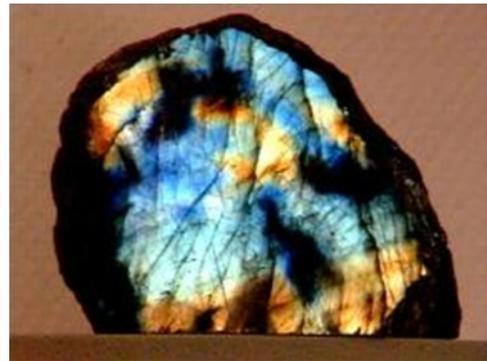
Iridescence is the light effect causing a mineral to

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display a play of colors on an uniform monocolored surface. Iridescence is often the result of pearly luster, seen around an area where pressure occurred. Covellite exhibits this effect, as different lights display different patterns on the same stone. Iridescence is also the result of mild tarnishing of some metallic minerals, such as Chalcopyrite.

Labradorescence is an optical phenomenon that is shown by the feldspar Labradorite. The iridescent display on the surface of labradorite is directionally oriented so that the color changes with every position. The structural pattern of Labradorite is the reason of labradorescence. There are repeated, microscopic thin layers of twinning inclusions of black magnetite or ilmenite and sometimes some fracturing. These layers cause the diffraction of light to occur, as it passes through the stone and then gets reflected from the parallel surfaces.



Labradorite, Madagascar

Phosphorescence is the delayed afterglow of a mineral when irradiated with energy. The most striking example of this occurs with the Hope Diamond. This blue diamond will glow red when illuminated by infrared light. However when the light is taken away the Diamond will continue to glow red for minutes afterwards.

Tenebrescence is a remarkable property of certain minerals to temporarily change their color. Very, very few minerals exhibit tenebrescence, also known as reversible photochromism. A couple of minerals that do this are hackmanite and tugtupite. This behavior is used with synthetic materials for the manufacture of self-adjusting sunglasses, which darken on exposure to sunlight.

Triboluminescence is phosphorescence that is triggered by mechanical action, or electroluminescence excited by electricity generated by mechanical means. An example of this what happens when you bang two quartz pebbles together in a dark room. There is a visible spark of light emitted.

Thermoluminescence is phosphorescence triggered by temperatures above a certain threshold. Note, this is not to be confused with incandescence. In thermoluminescence, heat is not the primary source of energy, it is only the trigger for the release of the energy, that originally came from another source. This can be seen when Tourmalines are heated. Not that one should cook your tourmalines just to see this effect, as cooking your tourmalines could permanently change its color

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

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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.

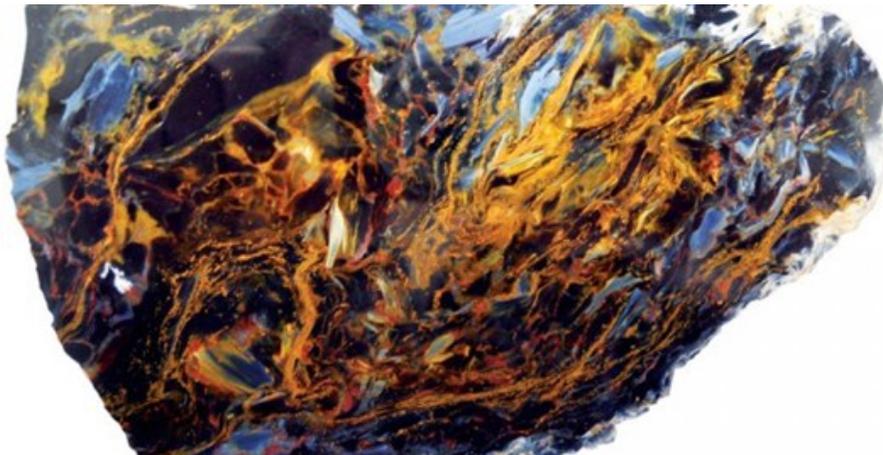
DOOR PRIZES

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!



Pietersite, Namibia

Mahalo to all who participated at the holiday party! Fun times by all!

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