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

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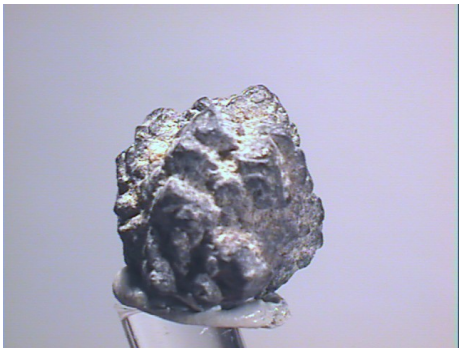
PRETTY POISONOUS MINERALS

BY DEAN SAKABE

With a topic such as "Pretty" poisonous minerals. I am excluding obvious native metals such as Lead, Mercury, and Cadmium, as they are not very "pretty." Similarly Uraninite, which is Uranium Oxide, and fairly radioactive, is excluded, as it is also kind of plain and ugly-looking. So what does that leave us? In this case, a fairly decent number of minerals which can be detrimental to our health.

We shall start off with **Arsenic (1)**, which has historically the poison of choice for many murders. Granted, Arsenic will hardly ever be seen in our collections, as it is not very pretty to look at, but Arsenic is usually one of the first names that come to mind when poison is mentioned. Although poisonous, arsenic compounds are actually used as an indicator element for other "important" mineable ores.

Arsenopyrite (2), is Iron Arsenide Sulfide and a major ore of Arsenic. That being said, it is not intentionally mined for Arsenic--lets face it no one actually mines a mineral just for Arsenic—but rather is more accidentally acquired. Arsenopyrite is obtained by recovering the fumes produced during the processing Gold ore. The fumes are then further processed to extract Arsenopyrite, which is then processed into Arsenic. This re-processing supplies the world's needs for Arsenic.



Arsenic (1)
Akadanimura, Echizen Provice, Japan

MEETING
Wednesday
March 24
7:00—9:00 pm
Makiki District Park
Administration Building

NEXT MONTH
Spherical Minerals
Wednesday
May 26, 2010

LAPIDARY

Every Thursday
7pm-9pm
Second-floor Arts and Crafts Bldg
Makiki District Park

MEMBERSHIP COSTS 2008

Single: $10.00
Family: $15.00

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Arsenopyrite (2)
Panasqueira Mine, Portugal

Chalcanthite (3), is a very pretty mineral, with its blue coloration and nice crystal structure. The problem with keeping this mineral is that it readily absorbs and releases its water content under varying environmental conditions. Over time, it will lead to a disintegration of the crystal structure, eventually could destroying the specimen. Its solubility in water means that it will crystallize, dissolve, and recrystallize as crusts over any mine surfaces in more humid regions, making mining very frustrating. Therefore, Chalcanthite is only found in the most arid regions in sufficiently large quantities for use as an ore.

Chalcanthite (3)
Aztec mine, Santa Cruz County, Arizona

That said, Chalcanthite can also be easily grown, sometimes producing higher quality crystals than found in nature. Please note as indicated, Chalcanthite is so poisonous that it was used to clear ponds and waterways of plant growth. That was before they found out that it also causes environmental damage.

Orpiment (4-5), which is an Arsenic Sulfide, takes its name from the Latin "*auripigmentum*", meaning golden pigment, because of its deep orange to yellow color. Orpiment was an important item of trade in the Roman Empire and was used as a medicine in China, despite being highly toxic. It was also used to poison flys as well as to poison arrows. Orpiment was also ground, processed, and used as a pigment in painting and for sealing wax, being one of the few clear, bright yellow pigments available. Unfortunately, the color would fade. The problem was that the color is unstable and will deteriorate with time and exposure to sunlight.

Orpiment (4)
Elbrusskiy Mine, North Caucasus, Russia

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Orpiment (5)
Hunan Province, China

Realgar (6), is an Arsenic Sulfide, whose name comes from the Arabic, "*rahj al-gar,"* meaning powder of the mine. It is orange-red in color, with high luster and clarity. It was previously thought that after a long exposure to light, Realgar deteriorated into Orpiment, however that turns out to be false. Realgar changes form to a yellow powder called Pararealgar.

As in the case of Orpiment, Realgar was a trade item in the ancient Roman Empire, and was used similarly as a pigment and a medicine. Some of the ancient Chinese carvings of Realgar are still in existence, but badly affected by deterioration. There are also some of the ancient painting which used Realgar, but unfortunately these now have a yellow or orange hue.

Cinnabar (6), this Mercury Sulfide is a common ore of Mercury, whose name comes from the Persian word "*zinjifrah*," meaning lost dragon's blood. Cinnabar's color ranges from cinnamon to scarlet red. It also has well-shaped crystals, which are sometimes twinned. This is distinctive and forms a penetration that is ridged with six ridges surrounding the point of a pryamid. Cinnabar was mined by the Roman Empire for its mercury content and it has been the main ore of mercury throughout the centuries. Some mines used by the Romans are still being mined today.

One thing that I had a chuckle over was the following health warning on a specimen: "Contains mercury - always wash hands after handling. Do not inhale dust and use caution when breaking. **Do not lick or ingest**. Do not heat in unventilated environment - emits toxic Hg fumes." What kind of person ingests rocks? Mercury sulfide is, however, relatively insoluble and toxicity of the pure material is low. But be aware that many samples of cinnabar, especially those which are "massive" rather than crystalline, also contain traces of native mercury, and this is far more easily absorbed by the body.

Realgar (6)
Jiepaiyu Mine, Shimen Co, Hunan Province, China

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Cinnabar (6)
Gong Kuan Mine, Tongren, China

Torbenite (7)
Musonoie Mine, Kolwezi, Zaire

Torbernite (7) is a Hydrous Copper Uranium Phosphate and is a popular mineral among collectors who seek uranium-bearing minerals. Torbernite is green with a squareish tabular crystal. Torbernite also fluoresces with a faint green color.

The presence of Torbernite crystals has been used by prospectors as an indicator that uranium ore in the area. Fine Torbernite specimens should be stored in a closed container to avoid water loss. Bear in mind that this is a radioactive mineral and should be stored away from other minerals that are affected by radioactivity. Human exposure should also be limited.

Torbernite can lose water and convert to a different mineral called Meta-Torbernite. Additionally, the change to Meta-Torbernite will often produce a pseudomorph. This conversion is irreversible and ongoing, so just about all of the specimens of age will be partially to totally converted.

Uranophane (8) is a hydrated calcium uranium silicate, it is really a pretty little mineral. Uranophane can occur in bright yellow tufts of fine hair like crystals. Uranophane is a fairly rare mineral that forms from the oxidation of uranium-bearing minerals. If one is lucky enough to obtain a specimen, please bear in mind that this is a radioactive mineral and it should be stored away from other minerals that are affected by radioactivity. Also, like Torbernite, human exposure should definitely be limited.

Uranophane (8)
Faraday Mine, Bancroft, Ontario, Canada

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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.

WE HAVE A WEBSITE!
http://pohakugalore.net/Hui_pohaku/Hiu_pohaku_1.html

MAHALO TO MARKUS FOR HELPING US GET OUT OF THE ELECTRONIC *STONE AGE*!

THE METAPHYSICAL PROPERTIES OF PRETTY POISONOUS MINERALS
BY JADE EMORY

Poisonous stones are often especially beautiful to look at. But some contain arsenic and you better not lick them to bring out the bright red of Realgar or you will not feel good at all. Some emit invisible toxic radiation that will cook your brain and body without giving you a warning that you are flirting with a deadly disease.

What can we learn from poisonous rocks and minerals? I think they are teaching us a lesson about appearances being less important than inner qualities. We live in a world that glorifies appearances, whether it is physical appearances of people, rocks, or circumstances. Just as we try to acquire the prettiest mineral specimens, we often unconsciously judge other people based on outer appearances, when we should be cultivating the inner perceptions to see who and what others really are.

Sometimes a person with a modest, humble or unattractive exterior contains greater inner virtuous character than a person with perfect physical form or impressive material worth. Likewise, sometimes a rock that looks quite homely may have high concentrations of healing mana when a perfect-looking specimen may have no power at all. I have seen this with quartz that has been impatiently mined with explosives, so that the crystals are damaged and later polished to camouflage the irregularities of their bruised terminations. But once crystals are polished, their energy is slammed shut and cannot be externalized the way natural crystals can.

Let us learn from poisonous rocks not to be poisonous people who regard outer beauty as more important than inner value.

PARKIGN AT MAKIKI PARK

Parking along Keeamoku St. starts at 5:30
After that, good luck because it drops off really fast.

Rock & Mineral Society of Hawai`i, Inc.

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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, 7:00 - 9:00 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.

Any newsletter comments are appreciated, and can be sent to elise.thomasson@gmail.com

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