

HUI PŌHAKU 'O HAWAI'I

Rock & Mineral Society of Hawai'i, Inc.



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SPINELS

BY DEAN SAKABE

March's topic is Spinel. Unfortunately most people know very little about this gemstone. To them, Spinel is considered to be the poor man's Ruby or Sapphire.

Chemically Spinel is a Magnesium Aluminum Oxide, whereas Corundum is Aluminum Oxide. The little addition of Magnesium in the mixture results in a 10 fold price decrease in the gemstone. That is not to say that Spinel do not look nice. In fact, the color of Spinel hold up very nicely when compared to corundum. The typical red Spinel is a little more pinker. Corundum is also harder (a 9 on the mohs scale) than Spinel (a 7.5 – 8 on the mohs scale). Corundum and Spinel also have similar refractive indexes, luster, and density.

With all of these similarities, one can guess that there have been cases where Spinel have been mistaken for Ruby's. That is true, case in point. The Black Prince's Ruby which is set in the British Imperial State Crown is actually a red Spinel.

Today very expensive rubies are still being substituted for by Spinel. Not to commit a fraud or theft but to prevent one. Red Spinel may take the place of ruby that could be displayed in public by an owner who will then secure the Ruby safely in a vault. The Spinel probably is still valuable however as they say it is better to lose a



Spinel, Mogok, Burma

\$100,000 dollar Spinel than to lose a \$1 million dollar ruby.

Spinel typically forms in well formed octahedrons. And is famous for the Spinel Twin Law. Which is also found in other isometric gemstones such as Diamond, Galena, Magnetite, and Franklinite. This type of twinning produces a twin plane that is parallel to one of the octahedral faces. The



Spinel, Ratnapura, Sri Lanka

MEETING

Wednesday
March 23

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

NEXT MONTH

Wednesday
April 27

LAPIDARY

Every Thursday
6:30-8:30pm
Second-floor Arts
and Crafts Bldg
Makiki District
Park

MEMBERSHIP

COSTS

2011

Single: \$10.00
Family: \$15.00

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Spinel, page 2

plane acts as a "mirror plane" which produces a left and right side that are mirror images of each other.

The plane falls in the center of the crystal, thereby dividing it in half. The two octahedron faces parallel to the twin plane are equilateral triangles. Each point of the triangles is then doubled across the twin plane with an indentation between them. The crystal looks like it has trigonal symmetry, but the three indentations are a clue that this crystal is a twin. Please note that twins of Spinel are not common, but their popularity makes them readily available on the market.

Fine red Spinel is actually rarer than Ruby of equal color. However, it is an undervalued gemstone, with its cost is about much lower than comparable Ruby. It is the scarcity of good Spinel that is reason for its lack of demand and popularity. Gem quality Spinel is found in limited supply, and therefore inhibits Spinel from being a more mainstream gemstone.

Spinel however is easily synthesized, and can be made into any color by adding the appropriate



Spinel, Jagdalak, Afghanistan



Spinel, Uva Province, Sri Lanka

appropriate impurity. Synthetic Spinel is often simulated to replicate many other gemstones such as Diamond, Sapphire or Zircon. Because of the abundance of synthetic Spinel, one must always be careful only to purchase this gemstone from reputable dealers. An interesting anomaly is that just about any colorless Spinel gemstones you find will be synthetic, as pure Spinel (i.e. colorless) rarely occurs in nature.

Here are some of the trade names of Spinel, with the associated color :

- Almandine Spinel – Violet to violet-bluish color
- Balas Ruby – Pink to pale Red color
- Blue Spinel - Light to dark blue color
- Flame Spinel - Orange to orange-reddish color
- Gahanospinel – Zinc-rich Spinel, usually dark green to greenish-black color
- Picotite - Brown color
- Pleonast - Opaque very dark blue or dark green or black
- Rubicelle - Yellow to orange color

RUBY SPINEL - ruby red variety of Spinel

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News and Notes, page 3

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 Black Prince's Ruby is a huge blood-red bead-shaped Spinel, roughly 170 [carats](#), set as the centerpiece of the crown in the famous Crown Jewels of the United Kingdom. This gem has a history dating back to the 14th century, and has been in the possession of the British kings since 1367.

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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