

# **Bulletin of the Mineralogical Society of Southern California**



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The 843th Meeting of The Mineralogical Society  
of Southern California

## **Field Collecting in Japan**

by  
**Alfredo Petrov**

**Friday, May 9, 2008, at 7:30 p.m.**  
**Geology Department, E-Building, Room 220**  
**Pasadena City College**  
**1570 E. Colorado Blvd., Pasadena**

### **Featuring:**

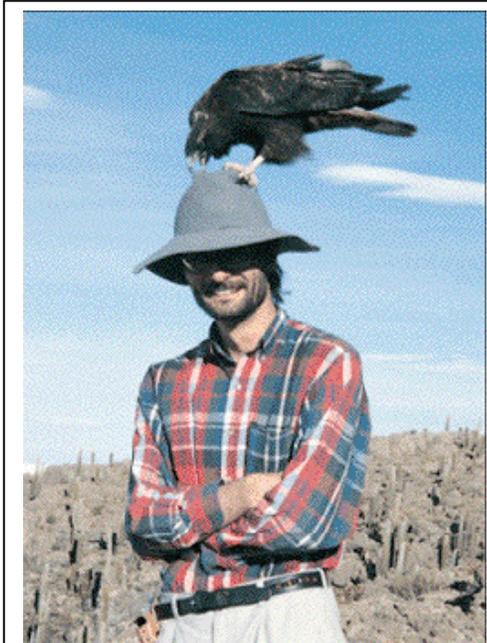
- Collecting minerals in Japan
- Testing for borates
- Sixth Annual Sinkankas Symposium
- A crooked kyanite

## May Meeting

### Field Collecting in Japan with Alfredo Petrov

By Janet Gordon

The May 9, 2008, MSSC speaker will be Alfredo Petrov of Petrov Rare Minerals. Join us at 7:30 p.m. in room 220 of E-building at Pasadena City College for a talk on “*Collecting in Mine Dumps and Roadcuts in Japan.*”



Alfredo Petrov in the field. Photo from [www.petrovrareminerals.com](http://www.petrovrareminerals.com).

*Collecting in Mine Dumps and Roadcuts in Japan.*” Alfredo worked in Japan from 1985 to 1989 and returns there about three times a year for mineral shows and some field collecting. He reports that there is a surprisingly active and knowledgeable mineral collecting culture in Japan which doesn’t seem to have much contact with the outside world, so most Western collectors aren’t aware of the

existence of collectors or collecting localities in Japan. Alfredo’s pictures of Japanese minerals and localities, as well as some cultural shots, will introduce us to the realm of Japanese mineral collecting.

According to his website, [www.petrovrareminerals.com](http://www.petrovrareminerals.com), Alfredo Petrov was born in England where he began collecting

minerals (gypsum and flint) at the age of 11. He was educated in England, Ethiopia (where he graduated from high school), Beirut, and California. As a geology student he had a part-time job in the mineral department of the San Diego Natural History Museum.

At various times he has also lived and worked in Germany, Idaho, Washington, Mexico, Belize, Japan, and longest of all, Bolivia. He currently divides his time between homes in Peekskill, New York, and Cochabamba, Bolivia. Alfredo makes his living selling mineral specimens at shows, guiding field trips to collecting sites, translating mineralogical literature, and lecturing on minerals and mining. In his free time he enjoys growing cacti, going to cinemas, reading science fiction novels, eating sushi, hiking and camping on tropical islands, and corresponding with friends around the world.

## **Minutes of the April 11, 2008 Meeting**

The 842nd meeting of the Mineralogical Society of Southern California was held on Friday, April 11, 2008 at Pasadena City College, Pasadena, CA.

The meeting was brought to order at 7:30 p.m. by President Geoffrey Caplette. Vice President Janet Gordon then introduced the speaker of the evening, Rock Currier, who gave a presentation entitled: "How to Increase the Half-Life of Your Collection."

Mr. Currier, the owner of Jewel Tunnel Imports, has been a mineral dealer and collector for many years. He possesses an enormous collection of significant mineral specimens, obtained from localities throughout the world.

His talk focused on the importance of properly labeling, cataloging and displaying specimens, not only for the collector's convenience, but also for the benefit of heirs. He described how valuable minerals are often disposed of by

heirs, for little, if any consideration, because the specimens in the collections were not identified properly.

Mr. Currier discussed the three kinds of labels: specimen, box and display, and suggested formats for the respective labels.

The most interesting aspect of Mr. Currier's presentation was his demonstration of the features and advantages of using computer programs to generate reports, appraisals and labels, after specimen information is entered. He used his own impressive, state-of-the-art (and still evolving) program, featuring The David Eidahl Collection, to show how effective the program can be. He also displayed specimens containing computer generated labels.

Geoff Caplette announced that 16 of the club's show display cases were spoken for. Bob Housley stated that a symposium, regarding the mineralogy of the Owens Valley, will be held on April 26<sup>th</sup> and April 27<sup>th</sup>. There will also be a field trip to the east dump of the Thompson Mine. Janet Gordon announced that the topic of the May meeting would be mineral collecting in Japan.

The door prize was won by James Lloyd.

The meeting was brought to a close at 9:00 p.m. by Geoff Caplette.

Respectfully submitted, Pat Caplette, Secretary

## **Thank you Kay Robertson**

The MSSC would like to thank Kay Robertson for her recent contribution of mineral specimens. Ms. Robertson, who has been a significant collector of minerals for over fifty years, has contributed numerous specimens to the Natural History Museum of



Los Angeles County. To learn more about Ms. Robertson, please refer to her profile in the Mineralogical Record, Mar/Apr 2007. (Photo credit: Kay Robertson at the 2003 Tucson Show. Photo by Peter Lyckberg, published in The Mineralogical Record, Volume 38, March-April 2007, page 127)

## **Field Trip Announcement: California Poppy Preserve**

By James Imai

The Poppy bloom was magnificent; perhaps the best in the last decade. The bloom peaked earlier than expected, and did not last as long as anticipated due to record hot weather. For those of you unable to have enjoyed the amazing sight, there is always next year, which we can hope will be even better. Below is a picture for your viewing, but it scarcely does justice to the actual bloom and vistas.



# TESTING FOR BORATES

By Dr. Charlie A. Crutchfield

This describes a simple test for the presence of borates, using readily available materials. The test is very sensitive for boron, but the mineral must at least slightly soluble in water or dilute [ 10 % ] Hydrochloric acid. That is, it will not work with [e.g.] Tourmaline, but will show a positive reaction for Kernite, Ulexite, etc. and other similar non-silicate borate minerals. In performing this test do not use Pyrex, Kimax, and other heat resistant glassware since they contain several percent boron and may give a false positive.

## Procedure

- 1) Grind a small amount, say, half a gram, of the mineral to powder.
- 2) To the powder add about 1 cc of dilute [10 %] HCl and stir.
- 3) In a few minutes place a few drops of the solution on a piece of Turmeric paper. A reddish-brown stain will appear which turns pink on drying
- 4) Dry the paper by holding it over a heat source, a 100 watt light bulb is convenient, as is sunlight. For safety, DO NOT dry it in a microwave or kitchen oven.
- 5) To confirm, add a drop of ammonia. The stain turns black to greenish-black.
- 6) 6. If acid is added, the original reddish-brown color will appear.

Note: The Turmeric paper is an acid-base indicator. It is yellow in acid and above pH 8.2 turns red.

## Materials and Reagents

**Hydrochloric acid, 10 %:** Nearly all pool acid is HCl [aka Muriatic acid], Dilute 1 volume to 10 volumes with water .

**Paper:** Chemist's filter paper is ideal, but white coffee filter paper is perfectly satisfactory.

**Turmeric Paper:** The active ingredient in this test is the chemical "Curcumin" which costs about \$ 13 per gram. So, use the spice "Turmeric" from the spice drawer in your kitchen.

- 1) Put about 1/4 spoonful of Turmeric in about 1/3 cup of alcohol [Isopropyl "Rubbing "alcohol, any strength]. Do this outdoors, a possible fire hazard.
- 2) Stir, leave stand for a few minutes. Then pour through a filter paper into a quart bowl.
- 3) Dip one coffee filter at a time into the bright yellow solution. Place on a cookie sheet to dry OUTDOORS.
- 4) Cut into convenient sized strips, say, 1/2 by 3 inches. Store in a plastic bag, they will last indefinitely.

## Interferences

Compounds of Fe, Mo, Ti, Nb, Ta, and Zr interfere by forming a red-brown color, but on adding alkali this color does not turn blue-green as does borate. However these are unlikely to be present in a white or colorless mineral where Boron is suspected. Also, most of these would be acid-insoluble.

Strong oxidizing agents such as peroxides, chromate, nitrate, chlorates, etc. also interfere with the color formation.

## **Sixth Annual Sinkankas Symposium**

By Shou-Lin Lee

The Sixth Annual Sinkankas symposium that was held on April 19<sup>th</sup> at the headquarters of Gemological Institute of America (GIA) at Calsbad, California promised to be an event full of all you want to know about garnets. There were nine speakers and their topics covered from historical usage of garnet to the molecular structures of garnet.

The subject matter included: Historical Overview and Analytical Studies on Garnets of the Ancient World, by Lisbet Thoresen, an independent researcher; Mineralogy, Crystallography and Occurrence of Garnet, by Dr. Williams “Skip” Simmons, Director of the MP<sup>2</sup> Research Group at the University of New Orleans; Garnet: History, Mystery, and a More Deadly Weapon, by Si Frazier; Demantoid Garnet, by Bill Larson, President of Pala International, Inc.; Cutting Hints for Gem Garnets, by Meg Berry, an award winning lapidary; Ode to Garnets and Tips for Photographing Them, by Bob Weldon; staff of GIA, Garnet Nomenclature, by Bill Hanneman, a retired research analytical chemist; The MicroWorld of Garnet, by John Koivula, Chief Gemmologist of GIA; and Color in Garnet, by George Rossman, professor of Mineralogy at California Institute of Technology and a MSSC member.

Having been to the fifth Annual Sinkankas symposium on jade last year, I had high hopes that this one would be equally good if not better. I must say that I wasn’t disappointed. First of all, the breakfast was better than what the advertisement promised of donuts and coffee. The breakfast spread included a balanced diet of various pastries, fresh fruits, juice, and plenty of coffee to keep participants awake and alert, in case the lecture become to dry or too technical. Other than Dr. Rossman, who was one of the nine speakers, there were several MSSC members who attended the symposium.

Some of the gem collection from the Academy of Natural Science in Philadelphia, that was the subject in Mr. Wayne Leicht's lecture in the January MSSC meeting, were on permanent display at GIA. In this collection, there is a large carbuncle that caught everybody's eye. The carbuncle, which measured about two inches long, had a nice even red color resembling red wine and had no visible inclusion.

Another bonus of attending the symposium is that there are also private garnet collections on display only for the symposium. Mr. Larson's garnet collection included not only all gem varieties, he also had a suite of 100 carats of faceted rainbow garnet, a star rainbow garnet and a freeform. Rainbow garnet was a very recent discovery. Currently, it is only found in Japan and Mexico. It is an andradite garnet with iridescent pattern that "resulted from a superficial chemical disintegration of the outermost layers of the crystal." The faceted pieces resembled faceted spectrolite. Except in color change variety, garnet is said to have all the colors of the rainbow except blue. Rainbow garnet changes that statement. In rainbow garnet, you do see blue and the blue stays regardless the kind of lighting.

Ms. Lisbet Thoresen who specialized in engraved gems of Classical Antiquity, has collaborated with Dr. Rossman in identifying localities of some garnet carvings from antiquity. Her studies depicted an ancient world that was far more mobile than we thought. Some garnet carvings found in some ancient sites were originated from distant localities, which implied international commerce activities.

Dr. William Skip Simmons described the basic chemical composition of the garnet group. He showed a chart of 15 species of garnet and their chemical compositions: Pyrope, Almandite, Spessartine, Grossular, Hibschite, Katoite, Andradite, Schorlomite, Kimzeyite, Morimotoite, Uvarovite, Goldmanite, Knorringite, Majorite, and Calderite. Of these 15, only six are used as gems. He then described the difference between various species of garnet and how they

relate to each other. Dr. Simmons used a computer program called Kristal Shaper to demonstrate several crystal habits of garnet. The program can display selected crystal structure, then rotate it in various directions.

Si Frazier's presentation was often full of anecdotes and interesting stories. He told us about his "love affair" with garnets. The ring he used to propose to his wife was set with green and orange garnets instead of the more popular choice of diamond. Then he told the story of how a certain gem carver in Idar-Oberstein got a very large garnet crystal and decided to create a Faberge style egg using the garnet as the egg shell. This was a daunting task, as garnet crystal was often full of inclusions and fractures. The carver was successful. The finished piece, which was entitled "the musical egg," had a garnet shell that opened to reveal a violin pendant/brooch inside.

Bill Larson told us about his quest for Russian demantoid garnet that eventually lead him to the old demantoid mine where demantoid was first discovered in late 1800's. Before his involvement in mining demantoid garnet in Russia, demantoid garnets were very rare and only available from antique jewelry. Thanks to his efforts, demantoid garnets are available in all sizes again, if money is no object. However, some demantoid garnets were heat treated in an oxygen reduced environment to lighten darker body color.

Meg Berry presented a slid show of how she faceted an almandite garnet and carved two spessartine. The faceting started on paper. A detailed diagram was drawn of the basic shape, the placement of the facets and the angle of each facet. But nothing is ever straightforward. As the work progressing, Ms. Berry found that in order to take out a fracture on the crown, she needed to change the crown angle. The finished stone was displayed with three pages of notes taken before and during the faceting process. Compared with the faceted stone, the two carvings were more straightforward, but tedious and time consuming nonetheless.

Bob Weldon's presentation was both informative and a treat for the eyes. Mr. Weldon showed pictures to demonstrate how lighting directions create unattractive dark areas in gems and how different background colors affect the overall appearance of gems. Also when shooting a suite of gems, the arrangement of gems give different effects.

Dr. Bill Hanneman's lecture on naming garnet traced several studies on grouping garnets based on properties other than chemical compositions. He argued that naming of garnets should be based on their chemical compositions not the salability of the name. For instance, the name rhodolite should be for garnet with almandine and pyrope mixture with emphasis on almandine. However, based on a certain naming scheme, garnets that were identified as rhodolite often have more pyrope than almandine because rhodolite is more desirable commercially.

John Koivula's presentation on the inclusions in garnets and garnets as inclusions in other gems was a rare treat. In the commercial world of gem trade, pure and clean have been the key adjectives. Inclusions tend to be viewed as undesirable. However, after a session with Mr. Koivula, a flawless gem suddenly became boring. I found myself looking for stones with inclusions. Sometime inclusions tell stories about the gems. For instance, a diamond with a spessartine garnet inclusion would indicate an eclogite origin.

Dr. George Rossman described his research method on how to determine the cause of color in garnet. Pure grossularite garnet synthesized in the laboratory has no color. So then where did garnet get its color? Dr. Rossman methodically explained how pyrope and almandine got their red color, and how andradite got its green. And the presence of both manganese and vanadium in right proportions would create a blue garnet. Yes, a blue garnet. Dr. Rossman showed a picture of a blue garnet as blue as the finest sapphire. Then, Mr. Larson added, the stone is a color change variety and the

blue is present when viewed under sun light or day light equivalent lighting.

With that, the symposium came to a close.

## Show and Tell

**Is this a once in a lifetime find,  
or was this cooked up in someone's garage?**

By Shou-Lin Lee



In a flat of about two dozen of straight kyanite specimens from Brazil this crooked kyanite immediately caught my attention. It bends like someone had bended it against a mold then heated it to set the shape. I thought about asking the vendor was the shape due to human intervention but decided not to. Some people might took it the wrong way and become defensive. So I asked was the

piece the same as others in the same flat? The vendor said yes, the piece belonged to the same flat.

I am not familiar with whether kyanite could be bended by human intervention like bending plywood to form, does anyone has any input on how this piece got its shape?

## WEST COAST GEM & MINERAL SHOW

Holiday Inn - Costa Mesa ❁ Bristol Plaza ❁ 3131 S. Bristol  
St.

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### 2008 Calendar of Events

**May 2, 3 & 4 2008, Bishop, Lone Pine Gem & Mineral**

Society Tri County Fairgrounds Sierra Street & Fair

Drive Hours: Fri. 6 p.m. - 10 p.m., Sat. 9:30 - 4; Sun.

10 - 4:30 Jeff Lines (760) 937-4498

**May 3-4 2008, Bakersfield, Kern County Mineral Society**

Ming Ave and P Street Kern County Fairgrounds

Hours: 10-5 both days Ismael Sanchez (661) 301-4609

**May 3 - 4 2008, Anaheim, Searchers Gem & Mineral Society**

2271 W. Crescent Avenue Hours: 10 - 4:30 both days

Betty Nelson (714) 530-1365 Email

betty@azteche.com Website: [www.searchersrocks.org](http://www.searchersrocks.org)

**May 10-11 2008, Reno, NV Reno Gem & Mineral Society**

Reno Livestock Events Center 1350 N. Wells Ave.

Hours: Sat. 10 - 5; Sun. 10 - 4 John Peterson (775)

356-8820 Website: [www.renorockclub.com](http://www.renorockclub.com)

**May 17-18 2008, Yucaipa, Yucaipa Valley Gem & Mineral**

Society Yucaipa Community Center 34900 Oak Glen

Road Hours: Sat. 9 - 5; Sun. 10 - 4 Bill Jochimsen  
(909) 790-1475 Email: [bjim2285@aol.com](mailto:bjim2285@aol.com) Website:  
[/www.mysite.verizon.net/YucaipaGem/103.html](http://www.mysite.verizon.net/YucaipaGem/103.html)

**May 17 - 18 2008, Newbury Park,** Conejo Valley Gem &  
Mineral Club Bochar Park 190 Reino Rd., Newbury  
Park, CA Hours: Sat. 9 - 5; Sun. 10 - 4:30 Robert  
Sankovich (805) 494-7734 Email:  
[rmsorca@adelphia.net](mailto:rmsorca@adelphia.net) Website: [www.cgmac.org](http://www.cgmac.org)

**May 31 - June 1 2008, Glendora,** Glendora Gems 859 E.  
Sierra Madre Hours: Sat. 10 - 5; Sun. 10 - 4 Bonnie  
Bidwell (626) 963-4638 Email: [YBidwell2@aol.com](mailto:YBidwell2@aol.com)

**May 31 - June 1 2008, Woodland Hills,** Rockatomics Gem  
& Mineral Society Pierce College Victory and Mason  
Hours: 10 - 5 both days Louise Gerik (818) 347-1234  
Website: [rockatomics.com](http://rockatomics.com)