Bulletin of the Mineralogical Society of Southern California

Volume 92 Number 4 - April, 2019

The 967th meeting of the Mineralogical Society of Southern California

With Knowledge Comes Appreciation

April 12th, 2019 at 7:30 P.M.

Pasadena City College
Geology Department, E-Building, Room 220
1570 E Colorado Blvd., Pasadena

Program: **Petroglyphs, Dendrites and Manganese Oxide Minerals: Presented by Dr. George Rossman**

In this Issue:

Remember: If you change your email or street address, you must let the MSSC Editor and Membership Chair know or we cannot guarantee receipt of future Bulletins

About the Program: Petroglyphs, Dendrites and Manganese Oxide Minerals:

Presented by Dr. George Rossman

Purely manganese oxides include hausmannite, manganosite, pyrolusite and ramsdellite. Other manganese oxides, many with a chemical formula close to MnO2, contain 'foreign' ions within open spaces in their structures. They include birnessite, coronadite, crytomelane, hollandite, manjiroite, nsutite, ranceite, romanechite, todorokite, and vernadite. Some of these phases are common components of manganese dendrites, but the so-called "pyrolusite" dendrites have never been shown to contain pyrolusite. Manganese oxide is also an important constituent of desert varnish which is the rock coating that is broken through to show the lighter rock beneath in petroglyphs. Our talk will discuss such occurrences of manganese oxides and what we have to do to identify the manganese oxide species in the laboratory.

MSSC President, George R. Rossman is an American mineralogist and the Professor of Mineralogy at the California Institute of Technology. His research Interests include: Mineralogy. The relationship between the spectroscopic properties of minerals and mineral composition and structure.

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From the Editor:

Happy April 15th. Here's hoping your tax day results in a refund or at least isn't too painful!

This looks like a good month for MSSC, George's programs are always great and then there is a field trip to look forward to. Ann also sent a list of other free things that look pretty interesting too. Then Janet Gordon sent along information on the Rochester Mineral Symposoium in New York and the Symposium on Granitic Pegmatites in San Diego in June. So many events to tempt us! Linda Elsnau

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FROM THE PRESIDENT: Interesting Minerals, A to Z. Installment 4, the letter D By George R. Rossman

Somehow, last year, we skipped installment 4, the letter D. So, here it is, out of order. Rather than discussing diopside or dolomite, let's discuss

Despujolsite: $Ca_3Mn^{4+}(SO_4)_2(OH)_6 \cdot 3H_2O$

Figure 1. Despujolsite, N'Chwaning III Mine, Kalahari, South Africa. *Photo credit: GRR*

Figure 2. Guadefroyite, N'Chwaning III Mine, Kalahari, South Africa. *Photo credit: GRR*

Despujolsite **(Figure 1)** was first announced by C. Gaudefroy et al. (1968) in an article entitled "La despujolsite, une ouvelle espece minerale" in the Bulletin of the Society of France Mineralogy and Crystallography 91, 43-50. It was found at the Tachgagalt Mine, Morocco, in the Anti-Atlas Mountains, in cavities between crystals of guadefroyite, $Ca_4Mn^{3+}{}_{2\text{-}3}(BO_3)_3(CO_3)(O,OH)_3$ **(Figure 2)**. The locality is a manganese mine that was worked in the mid 1900's. Note that the author of the discovery paper, Gaudefroy, was working with two minerals, one of which was later named after him. Despujolsite, in turn, was named in honor of Pierre Despujols (1888–1981) who was the founder of the Moroccan Geologic Survey.

Why is despujolsite so interesting? This yellowish-green mineral is one of a very few examples of a mineral with manganese in the 4+ oxidation state that is not black. There are many manganese 4+ minerals: oxides such as pyrolusite, cryptomelene, hollandite, romanechite, ramsdellite and todorokite, to name a few, all of which have chemical formulas close to MnO_2. **Figure 3** is a manganese dendrite comprised of the black mineral todorokite and Figure 4 is a lump of ramsdellite. Why are they all not green like despujolsite? The reason is that all these black manganese oxides contain manganese in more than one oxidation state. There is manganese in the 3+ oxidation state mixed in with the manganese 4+. The average oxidation state of manganese in many of these oxides may only be 3.8, not the ideal 4.0. When multiple oxidation states are involved, incident light can make the electrons in the manganese atoms jump back and forth between atoms of different oxidation states. That means the light is absorbed very efficiently and the mineral becomes black. I discussed this earlier when I wrote about nsutite. Magnetite is black for the same reason. It has iron in both the 2+ and 3+ oxidation states.

Figure 3. Todorokite dendrite on quartz and feldspar from the White Queen Mine, Pala, California.
Photo credit: GRR

Figure 4. Ramsdellite from the Black Magic Mine,
San Bernardino Co., California.
Photo credit: GRR

There is another mineral that has manganese in the 4+ oxidation state and is green. That one is the kunzite variety of spodumene ($LiAlSi_2O_6$) which contains a little manganese that replaces the aluminum in the spodumene. At least when it first comes out of the ground it is sometimes green. But when exposed to sunlight, it changes to pink, the color of manganese 3+ that we normally associate with kunzite. Before spodumene fades completely to pink, it can go through a blue-green phase. The greenest ones I have encountered are from Afghanistan (**Figure 5).**

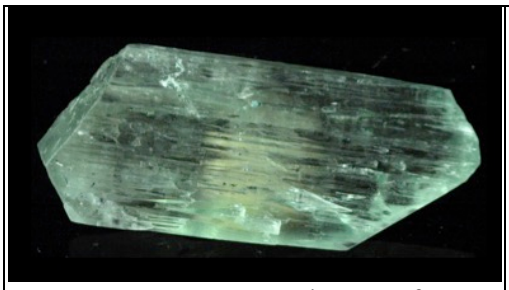

Figure 5. Green spodumene from Kunar Province, Afghanistan
Photo credit: Rob Lavinsky, irocks.com

Figure 6. Green spodumene from Afghanistan. Most are not this dark green because this one has been irradiated with gamma rays.
Photo credit: GRR

Figure 8. Hiddenite variety of spodumene from Alexander CO.,
North Carolina.
Photo credit: Rob Lavinsky, irocks.com

Figure 7. Gem kunzite before (left) and after (right) irradiation that turns it green. Photo credit: GRR

But be careful, pink spodumene (the variety kunzite) can be irradiated with gamma rays to turn it green. The manganese 3+ is oxidized to manganese 4+ by the energy of the gamma rays. Sometimes pink crystals (**Fig. 6**) and pink gems are irradiated (**Fig. 7)** and sold as green gems that look like the chromium-containing variety of spodumene known as hiddenite.

But hiddenite is very different. The color in hiddenite (fig. 8) comes from chromium, Cr^{3+}, not from manganese. And the color of hiddenite is permanent; it does not fade in sunlight.

Irradiated crystals and gems occasionally appear on the market. The irradiated stones fade back to pink. Afghanistan stones fade slowly; California ones fade quickly. It is a case of "Buyer Beware".

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MINUTES of the March 8, 2019, General Meeting

On Friday, March 8, 2019, the **966th Membership Meeting** of the Mineralogical Society of Southern California (MSSC) was called to order at 7:30 p.m. by President George Rossman. There were 21members and guests in attendance.

Regular Business

Approval of Minutes: Dr. Rossman called for a motion to approve the Minutes of the January 12, 2019 meeting as published in the February *Bulletin*. The Motion was made by R Lopez and seconded by A Meister. Rossman said he had one correction: while announcing 5.415 minerals approved by IMA, Dr Rossman said the new mineral named *by* one of our members, *not for* one of our members. Correction noted. The vote to approve the corrected Minutes of January 2019 was made and carried unanimously.

Approval of Minutes: Dr Rossman called to approve the Minutes of the February 15, 2019 Membership Meeting [notification that the meeting was cancelled due to closure of meeting site]. The members voiced their unanimous approval.

President's Message:

There are 5,415 IMA approved mineral species, no change from last month. But, one of the new ones is from Mt. Carmel in northern Israel; it is Carmeltazite ($ZrAl_2Ti_4O_{11}$). It was found melted inside corundum xenocrysts, sapphires. The inclusions, found in the sapphires, are micro, thinner than human hair. Carmeltazite is terrestrial mineral associated with anorthite ($Ca(Al_2Si_2O_8)$), tistarite (Ti_2O_3) and osbornite (TiN). It has now been labeled as "Carmel Sapphire." It is the first terrestrial mineral to have been found embedded in a sapphire on planet Earth, originated from planet Earth. WOW!!!!

Member Reports

Tucson Show Report:

Steve Mulqueen, Ventura Gem & Mineral Society and James Parrish, guest from San Diego Gem & Mineral Society, attended the show and reported their experiences at the show.

Field Trip Report:

Rudy Lopez reports there was a field trip to Blue Bell Mine in January. In February, the field trip was out to Dish Hill. Rudy's report is in the *Bulletin*. Catherine Govaller also went out and she brought "show and tell" samples, including phenocrysts. Some Cal Tech students collected gem quality olivine, magnetite (they forgot a magnet), among others. It was a good field trip. Catherine adds, "…a good time was had by all."

Announcements:

Rudy Lopez announces that the L.A. Natural History Museum will host its 5th annual Nature Fest March 16, 17. MSSC has had a booth each year since the beginning. We will hand out specimens (1,500 bags of chalcedony) and provide crystal design cut outs to children to do there or to take home. Rudy is always looking for volunteers. Please contact him if you can help out.

Name Change: Pacific Micromount Conference: At the last Board meeting, there was discussion and a Board recommendation: The event is renamed Pacific Micro**mineral** Conference going forward. The main reasons are because they don't talk about mounting instead the focus is on minerals. The last conference had 37 attendees with 19 microscopes set up. Participants included people from across the US, a fellow from Tokyo,

another from Belgium and 6 MSSC members. Speakers included Michael Cox, Ted Hadley, Paul Adams, Bob Housley, Marek Chorazewicz and others.

Upcoming Shows: CFMS show is this weekend hosted by Pasadena Lapidary Society. It will be held at Pomona Fairplex, Bldg.6. Victorville is also this weekend at Stoddard Wells.

New Members/Visitors/Guests: Welcome to Margaret and Bill Hogarth who are new members that attended the PMC in Fallbrook. Visitors Wayne and Peggy Leibitzke and Sally and James Parrish from San Diego Gem and Mineral Society came up for the CFMS show. All are invited to sign up for e-newsletter at **sdmg.org.** Other guests tonight are Mike Blais (interest in geology and minerals), Ricardo Gonzalez (2 MSSC field trips), Immanuel Bissell (interest in minerals), Yvette Fitzgerald (formerly MoRocks now PLS) and Nicole Childs (recent degree in Geology, JTI).

Presentation

The meeting was turned over to Program Chair, Rudy Lopez. Rudy reports that he has speakers lined up through February 2020. If anyone wants to join today as a member, Rudy has the forms available.

Rudy introduced **Steve Mulqueen**, tonight's speaker. Steve is a member of MSSC and the Ventura Gem & Mineral Society. In 1978, he earned his BS in Geology from Cal Poly Pomona and began his career with American Borate at their Billie Borate Mine in Death Valley, CA. From 1979 to 1982 he worked at Kerr-McGee mining at Searles Lake near Trona, CA. Much of his career involved 27 years with the State of California, Dept of Conservation and, later with the California State Lands Commission. Steve is a rock hound hobbyist. Some of his unusual and rare rocks, minerals and fossils can be found in geology labs or have been donated for educational purposes. He also writes professional articles, leads field trips and presents lectures thereby sharing his knowledge and learning in the process. Mulqueen is retired and lives in St. George, Utah.

The Golden Age of Rockhounding featuring photos from the Kirk and Parker Collections. The 1940's, 1950's and early 1960's photos were digitized from 35mm slides.

Steve Mulqueen first provides us with some historic information regarding rockhounding. His question: When did rockhounding in North America start? Well, it started over 10,000 years ago, believe it or not. Native Americans collected rocks and minerals for jewelry, tools, cooking materials and other uses. Not much different compared to now, really. Toltec Mine at Turquoise Mountain is northwest of Halloran Springs, San Bernardino County. There is evidence that Native Americans extracted turquoise from the area approximately 12,000 years ago! The mine is one of the oldest in North America.

Much later, 1775-1780, gold was found at the Potholes district near Cargo Muchacho-Tumco Mountains in southeastern Imperial County. This is one of the first discovery sites of gold in California. Early Spanish settlers extracted gold from the west shore of the Colorado River, California. Many of the Spanish settlers were massacred by the Native Americans; sadly, any written historical records of gold extraction were lost. Most gold discoveries were never documented.

Mineralogical societies were first started in 1886. New York was the first one and in 1892, Philadelphia was established. Over the years by the 1930's there were 120 societies; MSSC began 1931 and CFMS in 1936.

Interest in rockhounding was attributed to many factors. There was a shift at the end of WWII. Manufacturing changed, factories produced sturdy automobiles, there was a glut of petroleum and natural gas. People ventured outdoors on roads and highways that were in good shape. Route 66 was a popular highway, gas rations had ceased in 1945. There were plenty of military surplus items, like tents, pouches, cooking supplies like Coleman camp stoves, vehicles (Jeep Willys) and other items readily available. The US, in late 1940's, was prosperous while countries overseas were struggling to get back on their feet. By 1947, there were now over 1,000 societies in the United States. During that time and well into the 1950's, societies and clubs went exploring in the mountains and deserts, many in California. The golden age of rockhounding was born!

Mulqueen showed several early photos of the rockhounds from the Ventura Gem and Mineral Club (became "Society" later). The pictorial was much like the photograph chronicling what we do today on field trips. The desert roads were as dusty then as now. Of course, a major difference by comparison is the vehicles used. Back

then, cars and trucks were big, bulky, and heavy and many towed trailers for cooking and sleeping. For those who didn't have trailers, they cooked out in the open and slept in their cars or truck beds for the overnight trips. Just about everyone carried canvas buckets and had field tools. The nostalgic photos depicted an outing everyone enjoyed. Today we use 4x4's, all-wheel drives and other specialty vehicles that are air conditioned, have a high clearance and can be made very comfortable. When you think about it, it's all in the perspective, then vs. now.

Most rock hounds are involved in exploring the desert, exploring the mountains, observing and studying geology, mining history, habitation by early Native Americans, habitation by early settlers, wild life, plant life, fishing, camping, teaching, photography, astronomy and enjoying the great outdoors with friends. Additionally, rockhounding [trips] is faced with extensive planning, deprivation of the comforts of home, exhausting physical labor and adverse weather conditions. These hardships are acceptable when searching for and while extracting beautiful specimens that reveal important information about science.

Steve tells us in 1950 uranium was discovered in the desert and there were many who when out looking for it. So, the desert was a popular place to be for those interested in rockhounding, mining, fossil collecting and just being there.

Steve showed several photos of typical field trips, out in the middle of nowhere with their cars, tents and trailers. Many of those cars are woody station wagon, new 1956 VW bug, Fords, Pontiacs, Dodges and others. The field trips included Searls Lake (halite), Lucerne Valley (verde antique), Calico Hills, Tick Canyon (halite, colemanite), Opal Hill (opal), Mule Canyon (agate), Castle Butte (agate) Owlshead Mountain, Sperry Wash (petrified wood), Shark Tooth Hill (fossils), Bronson Quarry in Griffith Park (basalt), and Last Chance Canyon in Kern County. Other collecting sites include beaches, local hills, mountains (before "monument" designation) and others. The common thread is people having fun together.

What happened to our freedom to explore and collect at remote sites? Steve offers the following reasons: too many people, competition for land use, environmental concerns for sensitive lands, legislation of wilderness, population encroachment on land and depletion of mineral deposits. Before, during and after World War II, the first big land grabs were for military reservations: Edwards Air Force Base, Gunnery range in Twentynine Palms, Fort Irwin, Naval Air Weapons, El Centro, etc. These are big chunks of land, about 25 million acres in California. Then, in 1970, NEPA, National Environmental Policy Act, in 1976, FLPMA (BLM land off limits were 247 million acres), CDCA in 1980, California Desert Conservation Area Plan, late 1980's SB7 and SB11 closed off wilderness lands, 1994 CDPA, California Desert Protection Act established 69 wilderness areas in California including Death Valley as a National Park and Joshua Tree as a National Park and lately, President Obama's National Monument designation of San Gabriel Mountains. Many now closed for these various reasons, no trespassing, no entry, wilderness, national park, national monument, mine property, new highway, new housing tract, etc….no more open lands!

Our freedom has been restricted and we've lost access to many lands, we carry on the tradition. Rockhounds have found reason to get out and explore. Rewards and benefits are field exploration, valued photographs, fun, close friendships, treasures in the form of rocks, minerals, fossils.

During his presentation, Steve showed a photo of terrain and he stated,"…It is with our mutual interest and common goals that we stumble upon remote sites that contain unusual plant life and it is one example of the overall process of exploring and having fun." He says, when you're out rockhounding, stop, look at the scenery and just enjoy being out in the middle of nowhere.

Thanks, Steve Mulqueen, for a fascinating look back at field trips in the *Golden Age of Rockhounding*. There was a Q&A following the presentation.

Door Prize was won by Ricardo Gonzalez. Congratulations!

Meeting adjourned. Refreshment and good conversation followed in the break room.

Respectfully submitted by Angela Guzman, MSSC Secretary (Advance apologies for misspelled names, elements and/or other words.)

List of Upcoming MSSC Events : Mark your Calender!

Event	Date	Comments / Scheduled Program (if known)
Meeting Dates:	May 10, 2019	The Webers- Rainforest Jasper of Queensland Australia
	June 14, 2019	Bruce Carter – Mineralogical – Santa Cruz Island
	July 12, 2019	Peter Goetz: Slovakian Opal - Beautiful opal mines in eastern Slovakia
	August, 2019	MSSC Annual Picnic
Board Meeting	June 9, 2019	Board Meeting at Bruce Carter's house
Field Trip	April 13, 2019	Mule Canyon Rd in Calico Mountains

Note: Dates and programs shown above are subject to change. Check your bulletins to confirm final information each month.

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MSSC BOARD MEETING MINUTES, March 3, 2019

Call to Order and Roll Call: The Board Meeting called to order at 1:05pm by Dr. George Rossman, President. The following members were present: Rossman, Meister, Ritchey, Lopez, Lopez, Carter, Housley, Ogg, Stevens and Guzman. There was one guest, Barbara Stevens.

1. **Comments from the President**:
   a) *Approval of Minutes*: Rossman called for a motion to approve the December 2, 2018 Board Minutes as published in the January 2019 *Bulletin*. The Motion was made by Ogg and seconded by Carter. Rossman asked for corrections and/or additions, seeing none asked for a voice vote. The motion passed unanimously to approve;
   b) *CFMS Newsletter* is posted on-line (www.cfmsinc.org/newsletter/news/htm);
   c) *Roster*: recently mailed to membership with discussion about sending out color copies. Cost to mail $265, should we send electronically? How many members? Current membership is: Honorary (5), Life (7), Regular members (not including children) (59), of whom 20 are active. 57 Rosters mailed.
   c) *Member building*: Discussion and suggestions to build membership: Include a survey in *Bulletin* (Meister will develop), outreach though Field trips, brochure placement (i.e., JTI), events (fairs, shows, etc.), personal calls to some inactive members;

2. **Treasurer Report**
   a) Treasurer Kusely still out ill, however, discussion regarding cost to print and mail the *Bulletin* for snail mail copies ($0.60/page with logo in color. Consensus is color is not necessary and would reduce production costs of *Bulletin* and Roster. We wish Jim a speedy recovery. [Jim has agreed to continue Treasurer duties remotely until he is released by his doctors.] *Editor's note: Snail Mail Bulletins are 100% printed in black & White. cost $0.10/page and we are currently sending out 7 snail mail bulletins/month.*

3. **Membership Chair** (Cheryl Lopez)
   (a) Cheryl Lopez reports we lost 10 members last year but picked up 3 new members for a total of 71;
   (b) Prospective recruiting at events gave 2 from Anaheim event and 5 from field trips.

4. **Pacific Micromount Conference** Report – Board Discussion
   (a) Rudy Lopez distributed a handout he prepared regarding financial breakdown from the PMC event:

   Income $2,599.00 Expense -$1,145.19 **Net $1,453.81**

   Discussion included: sorting Dollar Table specimens; The Brickers will be leaving Fallbrook next year; possible mid-year PMC event in LA area (check around to see if there is interest); suggested name change to Pacific Micro*mineral* Conference – majority of Board agrees by vote to name change; Wilkins given authority with regard to choice of speakers, fees (rental), food (in or go out on your own) [we do not need to micromanage] and permission for vendor, Ted Hadley, to sell his wares at the PMC? After further discussion, approval given provided he does not have displays set up and there is no other competition for his products (microscope lights, hard hat lighting, etc.).

5. **Field Trips** reported by Rudy Lopez
   The latest field trip was to Dish Hill near Amboy and Ludlow in the Mojave. Attendees included a couple of students from CalTech – everyone enjoyed minerals of the area including lava flow pieces, pyroxene,

olivine and many good samples for micro-mounting. Marek is doing a write up for the *Bulletin*. By the way, he's doing a great job organizing field trips and providing photos for the *Bulletin* and to our webmaster to post on-line.

== == BREAK == ==

6. **CFMS Report** (JoAnna Ritchey)
   (a) CFMS show, hosted by Pasadena Lapidary, is weekend of March 8-9-10 at Pomona Fairplex (Bldg 6);
   (b) End of Year election meeting will be 2nd weekend in November. It is their election meeting and there may be By-Laws changes;
   (c) 2020 show will be in Lodi, there is no club sponsor named thus far.
   [Note: Guzman will place MSSC brochures at the Pomona event].

7. **Program Chair Report** (Rudy Lopez)
   (a) *2020 Banquet* will be 2nd Saturday in January at Coco's. However, the Coco venue has been sold and Rudy has been calling different places shopping around to get another space: Rose Bowl, Country Club in Altadena, Panda Inn, Raffi's the Monrovian. Monrovian has an elevator to 2nd floor, plenty of area to accommodate our dinner and silent auction and the price may be just right. Rudy mentioned that the minimum number of guests at Coco's is 40 people – last banquet we had 35 listed with 3 no-shows. Watch the *Bulletin* for updates on our Installation Banquet event!
   (b) *Nature Fest* is the weekend of March 16 & 17 at the Natural History Museum in Los Angeles. It is their - AND OUR - 5th year!!! There will be mineral specimens or crystal design cut-outs activity for children. Rudy is always looking for anyone who wants to volunteer so let him know if you can help out at this or other events;
   (c) *Speakers* are booked through 2019 and the 2020 Installation Banquet speaker will be Paul Adams! Next month (April 2019), our speaker will be Bruce Carter. Lastly, Michael Cox's PMC presentation is on-line (McDermott Mine).

8. **Webmaster Report** (Leslie Ogg)
   (a) Leslie handed a comprehensive statistical sheet that *chronicles the past 90-day period of web activity for MSSC's website.* To highlight MSSC received 557 hits, with field trip information leading with 284 views, PMC at 170 views and the *Bulletin* views at 139! There were 336 searches led by Google at 313 searches and there were country searches from 24 countries led by the U.S. with 1807 then Canada with 61 and 31 from China. We had 172 Facebook followers with 166 likes!
   (b) Discussion regarding copyright issues, privacy and matters along those lines.

9. **Bulletin Report** (Linda Elsnau)
   Editor Linda Elsnau is unable to attend but works remotely on the *Bulletin*. We thank you for that, Linda. Guzman reminds everyone that the deadline to submit for the next *Bulletin* in the 22nd of each month

10. **PCC Meeting room status**
    Dr Carter will check with the college to see if the meeting room is available to us.

11. **Other Items**
    (a) Discussion regarding "phone tree" or similar contact method to use in case of emergency (i.e., cancelled meetings). Need to compile phone numbers and request permission to use in those instances;
    (b) Guzman said the old coffee pot is not good, the electrical outlet is broken, and it is generally not safe to use. She got a new kettle for the Society to use at meetings.

12. **Next Meeting and Adjourn**
    The next Board meeting will be June 9, 2019 with an alternate date of June 23rd. The meeting was adjourned at 3:20 p.m.
    Thanks to the Carters for the use of the hall and the yummy goodies.

Respectfully submitted, Angie Guzman, Secretary.

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Field Trip Information: Marek Chorazewicz

I've uploaded the Siberia crater report to the MSSC website, you can find it here:
http://www.mineralsocal.org/fieldtrip-information-reports/siberia-crater-dish-hill-feb-23-2019/

We've discovered 3 minerals previously not reported from the locality: pseudobrookite, hematite, and woodwardite, a very rare micro mineral, this is the first time it was ever found in California.

If you see any errors or omissions, or if you have good pictures of the materials from the trip, please let me know.

Also, the quick heads-up on **the next MSSC fieldtrip**: it will be on **Saturday, April 13th, 9 AM**. The destination will be the **Pacific Coast Borate mine near Mule Canyon Rd in Calico Mountains**, with very nice crystals of colemanite and celestine up to a few centimeters if you're lucky.

For more information or if you are planning to attend, contact Marek at *marekc@ixiacom.com*

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2020 MSSC Annual Banquet, New Location Rudy Lopez

COCO's has a new event coordinator. I checked into reserving the location for our 2020 Annual Banquet and was told there is now a 40-person minimum. We have averaged 35 members for the last 2 years. MSSC would have to pay extra to bring the count up to 40. Also the price may go up. But at last year's price it would cost us an extra $200.00.

I looked at 5 locations in Pasadena: Imperial Banquet Hall, Brookside Gulf Club, Altadena Town & Country, Raffi's Catering & Banquet Hall and Monrovian Family Restaurant. I chose Monrovian Family Restaurant due to location, price, space and the menu will be the same. The price will be the same as the last 4 years.

Monrovian Family Restaurant
534 S Myrtle Ave, Monrovia, CA 91016
Colorado & Myrtle

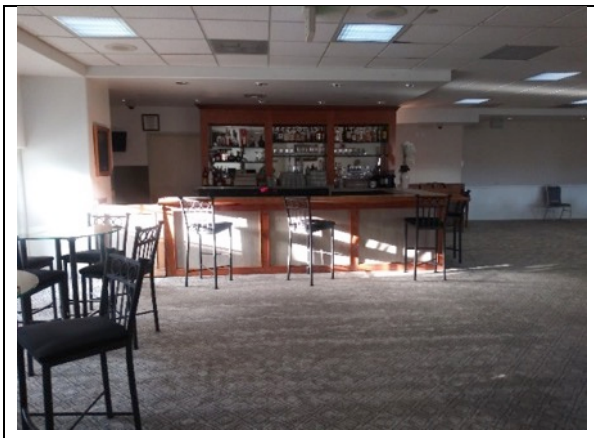
The banquet room is on the second floor with separate entrance, elevator, own restrooms, plenty of room. There are enough tables for 70 people if needed.

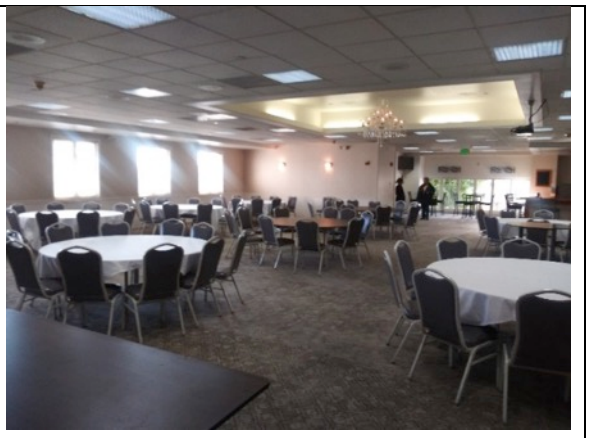
The second Saturday in January is already taken. But, Sunday, January 12th is open. We have a choice of 11am – 3pm, 12pm – 4pm or 5pm – 9pm. Here are pictures showing how nice the hall is.

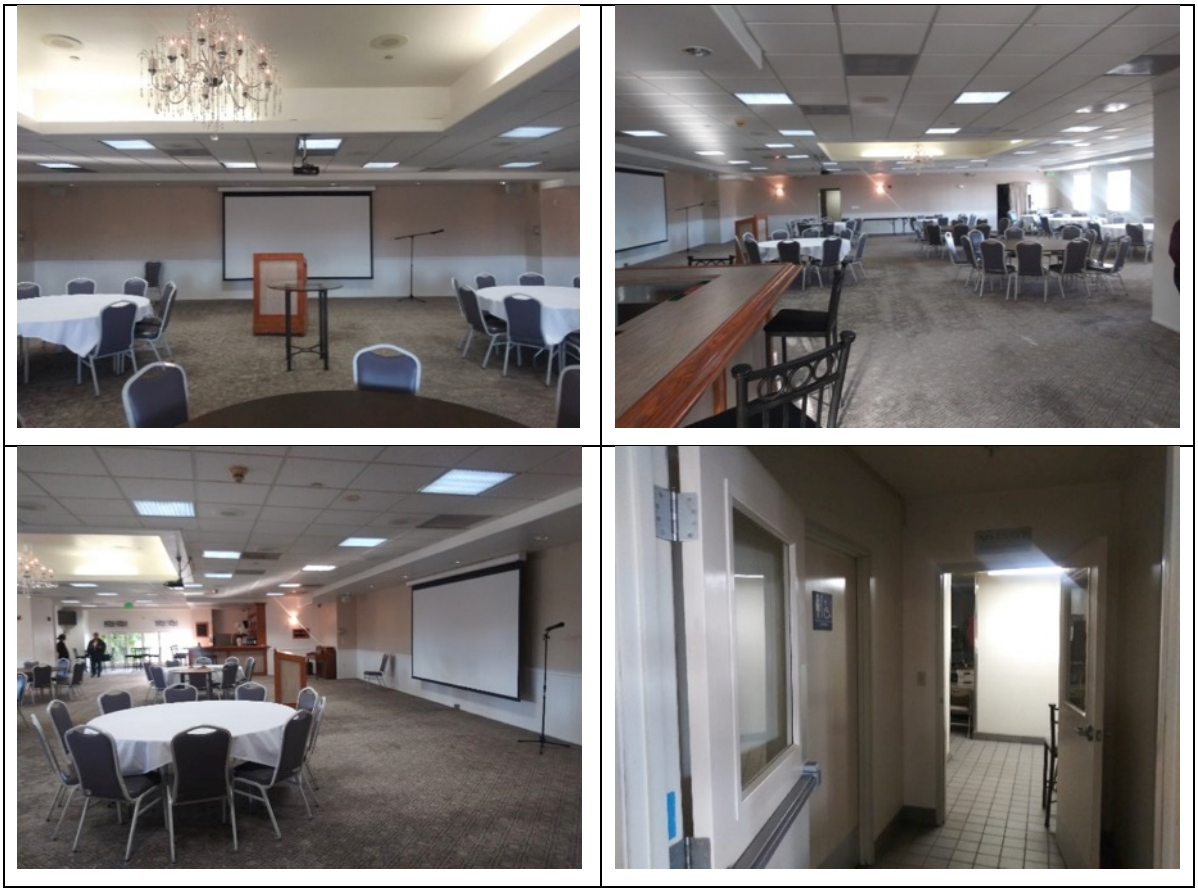
Use of the bar is an extra charge.

Please let me know what you think. I need to reserve the hall soon.

Programs, programs@mineralsocal.org







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Other Upcoming Events You Might Like to Know About: (Thank you Janet Gordon)

Dear colleagues,

We would like to cordially invite you to register for the **9th International Symposium on Granitic Pegmatites (PEG 2019),** that will be held at the Pala Casino Spa & Resort, in San Diego County, California, USA from June 11 – 18, 2019.

This conference is part of the series of symposiums initiated in 2003 in Nové Město na Moravě, Czech Republic with the most recent meeting taking place in Kristiansand, Norway (2017).

The conference program will include 2 ½ days of technical talks on topics related to the mineralogy, petrology and geochemistry of granitic pegmatites and 3 days of post-conference field trips highlighted by scheduled visits to the famous Himalaya and Stewart pegmatite mines. Separate registration is required to attend the field trip.

For full details, please visit the Symposium website at (**http://www.peg2019.com**).

Registration and abstract submission close on April 30, 2019.

We hope to see you in sunny California!

The Peg 2019 Organizing Committee

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Rochester Mineralogical Symposium April 11-14

It's that time of year again: to register for the Rochester Mineralogical Symposium, April 11-14.

There is a super speaker line-up! If you haven't yet seen it, the link for

the talks is: http://www.rasny.org/minsymp/46th%20RMS%20Agenda%20Draft.pdf

and the link for registration is:

http://www.rasny.org/minsymp/46th%20RMS%20Registration%202019%20Final.pdf

If you've never been, there really is no event in the Mineral World year exactly like Rochester.

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Ride Share Listing

Can You Provide A Ride?
Would You Like Company On The Drive To Meetings?

We have heard from several of our members that they would like to ride-share with someone to the meetings. We will list the names, general location and either a phone number or an email address of anyone who would like to connect for a ride-share. If you would like to catch a ride or would like company for the trip, let me know at msscbulletin@earthlink.net and I'll put the information in this section of the bulletin. After that, any final arrangements made are up to you. Also, If you make a connection that works for you, let me know so that I can remove your information from the bulletin. The Editor

Looking for	Who	Where	Contact at
A ride	Richard Stamberg	North Orange County, near Cal State Fullerton	*See emailed bulletin*

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OTHER FREE THINGS TO DO...by Ann Meister

The **Von Kármán Lecture** on *Thursday/Friday* **April 18 and 19** at 7 PM. The speakers are Dr. Kate Marvel, Dr. Graeme Stephens and Dr. Brian Kahn. The title of the presentation is **"The Future is Cloudy: NASA's Look at Clouds and Climate."** Earth is the most-observed planet in our system. There is a fleet of satellites looking down at our skies, giving scientists a deeper understanding of our ever-changing clouds and their relationship to our climate. ** Thursday is at the Von Kármán Auditorium at JPL and Friday is at Ramo Auditorium at Caltech.

There are **two Watson Lectures** at Caltech's Beckman Auditorium this month. The first is on Wednesday, **April 3** at 8 PM. The speaker is Azita Emami. The title of her talk is, **"Tiny Chips for Brain-Body-Machine Interfaces."** The second is on Wednesday, **April 24** at 8 PM. The speaker is Tapio Schneider. The title of his talk is, **"Clouds and Climate Tipping Points."**

The **UCLA Meteorite Gallery** lecture is on Sunday, **April 7**. The speaker is **Dr. Dimitri Papanastassiou**, an expert in isotopic geochronology, recently retired from JPL. His title is **"Apollo Science Recollection."** The Apollo Program was a competitive race to the Moon. Science was inserted quite late. But, once inserted, it resulted in a revolution in planetary science, in the development of a wide range of new analytical techniques and of new ways to think about planetary evolution, including the Earth. Funding for planetary science became plentiful for a few years; it allowed the formation of multidisciplinary teams. "I was finishing my Ph.D. in Physics when the Apollo 11 samples came back and had the excitement to work on them starting in September of 1969. I had developed a mass spectrometer uniquely capable of measuring lunar samples. I attended the 1st Lunar Science Conference, on a very cold day (Jan. 5, 1970) as a newly-minted Ph. D. and continued to work on samples from every Apollo mission. I will share the excitement and serendipity, as well as the importance of the multidisciplinary approach (physics, chemistry, geology)." The Meteorite Gallery in Geology room 3697 is

open with a docent present every Sunday from 1 till 4. The lecture, which is always on a Sunday afternoon at 2:30 pm, is in room 3656 near the Meteorite Gallery.

SALE OF THE ROCK CURRIER COLLECTION

Many of you have seen Rock Currier's mineral collection and asked what is going to happen to it. Check the Rock Currier Collection page on the internet (http://www.rockcurrier.com/) for information on the sale of Rock's minerals. Some pieces were available at Tucson this year, but the best stuff is still coming. There will be an auction of major pieces at Heritage Auctions in Dallas on August 26, 2019. All else will be at Tucson 2020. Check the website for more information.

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MSSC Advertisement Policy:

Mineral-related ads are allowable in the MSSC bulletin. Below is the price per month

Business Card	$5.00
1/3 page	$10.00
1/2 page	$20.00
Full Page	$35.00

In addition, any advertiser who purchases 12 months of space in advance will receive a discount of 12 months for the price of 10 months. The copy for the ads should be mailed to the editor at bulletin@mineralsocal.org and the payment should be sent to the **MSSC Treasurer 1855 Idlewood Road, Glendale, CA 91202**

With Knowledge Comes Appreciation!

Calendar of Events:

Only local area shows are listed here. Other CFMS Club shows can be found at: http://www.cfmsinc.org/

APRIL, 2019

April 5, 6 & 7: VISTA, CA
Vista Gem & Mineral Society
Antique Gas & Steam Engine Museum
2040 North Santa Fe
Hours: 9 - 5 daily
Website: vistarocks.org

April 13 - 14: PASO ROBLES, CA
Santa Lucia Rockhounds
Paso Robles Event Center
2198 Riverside Avenue
Hours: 10 - 5 Daily
Website: slrockhounds.org Show Page

April 13 - 14: THOUSAND OAKS, CA
Conejo Gem & Mineral Club
Borchard Park Community Center
190 Reino Road
Hours: 10 - 5 Saturday; 10 - 5, Sunday 10 - 4
Website: cgamc.org

April 27 - 28: LANCASTER
Antelope Valley Gem & Mineral Society
Antelope Valley Fairgrounds
2551 West Avenue H (Hwy. 14 & Ave. H)
Hours: 10 - 5 daily
Website: avgem.weebly.com

April 27 - 28: RENO, NV
Reno Gem & Mineral Society
Reno Sparks Livestock Event Center
1350 North Wells Avenue
Hours: Sat 10 - 5; Sun 10 - 4
Website: renorockhounds.com

MAY

May 3, 4, 5 & 6: YUCAIPA, CA
Yucaipa Valley Gem & Mineral Society
Yucaipa Music & Arts Festival
Yucaipa Blvd and Adams Street
Hours: Fri 6 pm-10 pm; Sat 12 noon-10 pm: Sun 12 noon-6 pm
Website: yvgms.org

May 4 - 5: ANAHEIM, CA
Searchers Gem & Mineral Society
Brookhurst Community Center
2271 W. Crescent Avenue
Hours: Sat 10 - 5; Sun 10 - 4:30
Website: searchersrocks.org

JUNE

June 7, 8 & 9: LA HABRA, CA
North Orange County Gem & Mineral Society
La Habra Community Center
101 W. La Habra Blvd.
Hours: Fri 5 - 8; Sat 10 - 8 & Sun 10 - 4
Website: www.nocgms.com

June 8 - 9: GLENDORA, CA
Glendora Gems
Goddard Middle School
859 E. Sierra Madre Avenue
Hours: Sat 10 - 5; Sun 10 – 4

June 29 - 30: CULVER CITY, CA
Culver City Rock & Mineral Club
Veterans Memorial Auditorium
4117 Overland Blvd
Hours: Sat 10 - 6; Sun 10 - 5
Website: culvercityrocks.org Show Page

June 29 - 30: ESCONDIDO, CA
Palomar Gem & Mineral Club
California Center for the Arts
340 N. Escondido Blvd.
Hours: 10 - 5 daily
Website: palomargem.org Show Page

JULY

No Shows are Scheduled for July

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April Featured Mineral: K Feldspar (Var: Adularia)

Formula: $KAlSi_3O_8$

Crystal System: Monoclinic

Name: Named in 1780 by Ermenegildo Pini for the type locality, the Adula Massif (part of the Gotthard massif), Switzerland.

A variety of K Feldspar ; Synonym of: Microcline, Orthoclase, Sanidine

Potassium-dominant feldspars with unknown crystal symmetry and Al-Si ordering state.

A more ordered low-temperature variety of Orthoclase or partially disordered Microcline. Individual localities should be verified because the adularia structural state is nearly equally represented by microcline and orthoclase specimens. Generally found in alpine-type parageneses.

© irocks.com photo

K Feldspar (Var: Adularia)
$KAlSi_3O_8$
Locality: Switzerland
5.5 cm x 2.3 cm x 2.2 cm

© irocks.com photo

K Feldspar (Var: Adularia)
$KAlSi_3O_8$
Locality: Pizzo Lucendro, Lucendro Valley, Central St Gotthard Massif, Leventina, Ticino, Switzerland
1.8 cm x 1.7 cm x 1.5 cm

© irocks.com photo

K Feldspar (Var: Adularia), Chlorite Group
$KAlSi_3O_8$
Locality: Wallis, Switzerland
3 cm x 2.5 cm x 2.2 cm

© irocks.com photo

K Feldspar (Var: Adularia)
$KAlSi_3O_8$
Locality: Hachupa, Shigar District, Gilgit-Baltistan, Pakistan
11.4 cm x 6.4 cm x 5.7 cm

© irocks.com photo

K Feldspar (Var: Adularia), Chlorite Group
$KAlSi_3O_8$
Locality: Hachupa, Shigar District, Gilgit-Baltistan, Pakistan
10.9 cm x 9.0 cm x 4.5 cm

© irocks.com photo

K Feldspar (Var: Adularia), Chlorite Group
$KAlSi_3O_8$
Locality: Alchuri, Shigar District, Gilgit-Baltistan, Pakistan
7.4 cm x 5 cm x 3 cm

2019 MSSC Officers:

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Secretary	Angie Guzman	*secretary@mineralsocal.org*
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About the Mineralogical Society of Southern California

Organized in 1931, the Mineralogical Society of Southern California, Inc. is the oldest mineralogical society in the western United States. The MSSC is a member of the California Federation of Mineralogical Societies, and is dedicated to the dissemination of general knowledge of the mineralogical and related earth sciences through the study of mineral specimens. The MSSC is a scientific non-profit organization that actively supports the geology department at Pasadena City College, Pasadena, California. Support is also given to the Los Angeles and San Bernardino County Museums of Natural History. The Bulletin of the Mineralogical Society of Southern California is the official publication of the Mineralogical Society of Southern California, Inc.

The MSSC meetings are usually held the second Friday of each month, January, February and August excepted, at 7:30 p.m. in Building E, Room 220, Pasadena City College, 1570 E Colorado Boulevard, Pasadena, California. The annual Installation Banquet is held in January, and the annual Picnic and Swap Meeting is held in August Due to PCC holidays, meetings may vary. Check the Society website for details.

The Society also sponsors the annual Pacific Micro mount Symposium held at the San Bernardino County Natural History Museum during the last weekend of January.

Annual Membership dues for the MSSC are $20.00 for an individual membership, $30.00 for a family membership. Bulletins are delivered by email, there is an additional annual $20.00 fee if you prefer paper bulletins mailed to your address. The Society's contact information:

Mineralogical Society of Southern California
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E-mail: *treasurer@mineralsocal.org*

Website: ***www.mineralsocal.org*** **The Mineralogical Society of California, Inc.**

MSSC Bulletin Editor
3630 Encinal Ave.
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To:

With Knowledge Comes Appreciation

Your MSSC Bulletin Is Here!