



The Rockhound Record

VOLUME 77, NO. 3

ISSN 2572-7486

MARCH 2018



COVER

METATORBERNITE
 $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$

1.8cm

Margabal, Aveyron, France

Bill & Anne Cook Collection

© Jeff Scovil.

Vice-President's Message

By: Joseph Philpott Jr



Table of Contents

Vice-President's Message	2
President's Message	3-4
Secretary's Message	5
Member/Meeting Info	6
Social Coordinator's Corner	7
Last Months Highlights	8-11
TGMS Competition Results	12-16
Carnegie Award Winner	17
March Program	18
AZ Mineral Collector	19
Mineral Of The Month	20-22
2018 Field Trip List	23
Field Trip	24-25
Other Club News	26-27
Upcoming Events	28

Hello fellow geode splitters and rock lickers! As I am sure Chris mentioned at the February meeting I was unable to make it because we were welcoming our new addition to the family into the word. While there are not many reasons out there to miss the great Bob Jones' spectacular presentations, I believe

he will understand our situation. Amanda and I look forward to this new chapter in our lives and hopefully in about a month or so she will have the upper body strength the swing a rock hammer and join me on collecting trips. I sure could use those tiny hands to reach into crevices.

I would like to congratulate all of the MSA competitors that were willing to put up their finest to be judged in Tucson. Especially the Wyatt and Maggie who improved greatly over last years competition. Keep it up and you will have master level cases in no time. Also kudos to Dawn Boushelle and David Tibbits for knocking one out of the park on their debut case. Both placed first in their classes, good job guys! I know competition isn't for everyone but if you're interested for next year I guarantee there's a class for you. Also Chris and myself are always willing to help out.

The weather is getting warmer, the snow is melting (not here but somewhere where it snows) and the field trips are getting rolling with a bang. Our coalition trip to lion springs went well and I believe the Florence trip may be a record attendance since I have been trip leader/ coordinator. Awesome job to the trip team in volunteering your time to make these happen! I hope everyone noticed the leaders new bright yellow shirts to be easily identified in the field. If you have questions, concerns or need help you cant miss us.

On topic of field trips we will be implementing new rules for trips after we had mike drive all the way to round mountain and no one showed up. From now on you must RSVP by phone, email or in person to the designated trip leader. This will let us know if anyone is coming as well as let you all know of any changes at a moments notice. Also for trips over 1hr from phoenix a minimum of 5 members must RSVP before the cut off date or the trip CAN be cancelled it is up to the individual leader at that point. Hope to see you all out on the next one!

President's Message

By Chris Whitney-Smith

2018 Tucson Gem and Mineral Show® remains the greatest show on Earth! I am very proud of (3) MSA Juniors who entered competitive exhibits at Tucson; David Tibbitts won 1st place Thumbnails Junior and Best Junior Exhibit Trophy, Wyatt Busby won 2nd place Junior Thumbnails and Erika Brown won 1st place Junior-Master Thumbnails and Best Junior-Master Exhibit Trophy. Cody Schwenk won 1st place Adult Thumbnails Novice and Best Novice Exhibit Trophy and 2nd place Self Collected Advanced. Joseph Philpott Jr. won 2nd place Adult Thumbnails Novice and 1st place Self Collected Advanced. Dawn Boushelle won 1st place Adult Novice for her Calcite exhibit. Maggie Lyons won 3rd place Adult Thumbnails and Chris Whitney-Smith won 1st place Adult Thumbnails Advanced and Best Advanced Exhibit Trophy. Les Presmyk won Best of Theme Large Cabinet, Chris Whitney-Smith won Best of Theme Toenail and Alex Schauss won Best of Theme Thumbnail. See pictures elsewhere in RR.

March 8th program "Mars, Mineralogy and Museum" will be presented by the great Dr. Bob Downs, Professor Department of Geosciences, University of Arizona and Director and Curator of the University of Arizona Gem & Mineral Museum. Bob's program "Mars, Mineralogy and Museums" will discuss role of University of Arizona Gem & Mineral Museum in providing education, outreach and research. Bob will summarize UA museum with a detailed review from 2008 when Bob was appointed curator and director. The program integrates exploration of Mars, research on minerals including the discovery of the new mineral Raygrantite (named in honor of MSA Past President Raymond Grant), and the development of a new museum to be in the old Pima County Courthouse.

Bob's field of specialization is the crystallography and spectroscopy of minerals, with emphasis on crystal chemistry, bonding, temperature and pressure effects, characterization and identification. Bob earned B.S. Mathematics 1986 University of British Columbia, M.S. Geological Sciences 1989 Virginia Tech and Ph.D. Geological Sciences 1992 Virginia Tech and he is honoree of mineral species: Bobdownsite.

February 15th meeting by the great Bob Jones about "Exploring Mexico's Caves" was a Bob Jones classic for a packed house. Bob took those in attendance on a fantastic journey into some of Earth most fascinating crystal mines and caves. The Mexican Cave of Swords and unofficial wonder of the world Giant Crystal Caves at Naica are the stuff of dreams and legend and Bob has been fortunate to have visited both and in turn generously shared his adventures. Thank you, Bob, for presenting back-to-back programs for MSA January & February and for being one of the greatest treasures for MSA and our hobby!

April 12th meeting will be presented by retired professor of geology, Dr. Raymond Grant on "Lost Mines." Ray is President of Pinal Gem & Mineral Society and Curator of Pinal Geology & Mineral Museum located in Coolidge, Arizona. Ray is on Mineralogical Society of Arizona Board of Governors as recent Past President. Everyone has heard about the Lost Dutchman Mine. It is world famous. Ray's program will be about some other supposedly lost mines; for example, the Jenkins Mine, the Silver Antelope Mine, the Cap Linger Mine, the Frenchman's Mine, the Ashley Mine and others. These have been listed as lost mines in Maricopa and Pinal County. Some of them may have been found, but there are many other mines for which the exact location is not well known. There are thousands of listed mines or mining properties in these two counties. A few are large famous mines, and some are only a small prospect pit. Come and learn about lost and found mines in Maricopa and Pinal County. Somewhere out there may be a silver or gold lode just waiting for you to find it.

President's Message Continued

By Chris Whitney-Smith

Ray received his Ph.D. in Geology from Harvard University (1968) and was Professor of Geology at Mesa Community College 1975-2001 and part time 2001-2006. He is a 2014 MSA Hall of Famer, MSA Milestone Life Member, MSA President 1976-1977 and 2012-2013, Past Chairman of Flagg Mineral Foundation. He is author of the Checklist of Arizona Minerals, first edition (1982) and second edition (2007) and coauthor with Anthony, Williams, and Bideaux of the Mineralogy of Arizona, third edition (1995) and Ray is honoree of mineral species: Raygrantite. Check Out Mineralogical Society of Arizona sponsored Mindat page: <http://www.mindat.org/min-43868.html>.

QUALITY MINERAL DONATIONS WITH LABELS NEEDED: Please see Chris Whitney-Smith.

Mineralogical Society of Arizona is a 501(c)(3) non-profit organization and will gratefully acknowledge your significant In-Kind Donation with a TAX Deduction Letter. All individuals making In-Kind donations to our non-profit organization may claim a tax deduction based on the fair resale value of the items donated. It is the contributor's responsibility to determine this value. Your contribution to Mineralogical Society of Arizona is fully deductible for tax purposes to the extent allowed by the current tax laws. If you have any further questions, please consult your tax advisor. Thank you again for supporting Mineralogical Society of Arizona!

MSA TABLE OF FREE AWESOMENESS: Several flats of rock & mineral specimens from recent adventures will be available for MSA membership for Free. Based on available quantities and first come first serve basis, members are requested to pick one item and allow all members who are interested a chance to take home a little treasure. No hoarding allowed. This is a generous and fun practice to build collections & offer members who weren't able to join a field trip an opportunity to select a specimen from recent excursions.

WEARING MSA NAME BADGES PAYS OFF!! MSA members wearing their MSA Name Badges to general meetings will be issued a special raffle ticket and be eligible to participate in raffle to play Prize Drop game with opportunity to win one of four prizes! If you don't have an MSA Name Badge, see Membership Chair, Mr. Ron Ginn at meetings or email Ron at MSAClub1935@msaaz.org. MSA Name badges are \$10.00. It's not just about winning prizes, it's fellowship and getting to know each other.

EXPLORE <> SHARE <> INSPIRE

Cheers!

Chris Whitney-Smith

Secretary's Message/ General Meeting Minutes:

By Cody Schwenk

February 15, 2018 MSA meeting minutes

MSA President Chris Whitney-Smith called the meeting to order at 7:35 PM on Thursday, February 15, 2018 at Franciscan Renewal Center, Piper Hall, Padre Serra Room, Scottsdale, AZ.

Opening announcements:

- Chris welcomes visitors and guests
- Mineral of the month is Sphalerite
- Members Joey and Amanda Philpott have a child
- MSA members competed in TGMS show, with members winning best novice and best advanced, best junior, and best junior master categories
- Chris presented junior exhibitors with TGMS posters
- Chris introduced Bob Jones, senior contributor to Rock and Gem
- Bob Jones gave a presentation on his experiences visiting gypsum filled caves in Mexico

Closing announcements:

- Mineral of the month for March is Torbernite
- Earth Science Museum meeting is February 25, 2018
- Chris talked about the interviews Blue Cap Productions did at the Tucson show.
- Les Presmyk won the 2018 Carnegie Mineralogical Award.
- There are many giveaway minerals, including rare Arizona Cinnabar from Mazatzal Mts. Arizona
- Chris recognized the work junior members have done at the Arizona Mineral and Mining museum.
- Tickets are drawn for raffle and prizes awarded

Meeting was adjourned at 9:30 p.m.

Silent auction was held and refreshments served

2018 Committee Members

President: Chris Whitney-Smith
ChrisWS@msaaz.org (602) 405-1502

Vice President: Joseph Philpott Jr.
JosephP@msaaz.org (602) 828-9298

Secretary: Cody Schwenk
MSAClub1935@msaaz.org (217) 621-4841

Treasurer: Dr. Nathan Scholten
NathanS@msaaz.org

Editor: Joseph Philpott Jr.
JosephP@msaaz.org (602) 828-9298

Webmaster: Ron Ginn
MSAClub1935@msaaz.org (480) 294-0731

Field Trip Chair: Joseph Philpott Jr.
FieldTrips@msaaz.org (602) 828-9298

Membership Chair: Ron Ginn
MSAClub1935@msaaz.org (480) 294-0731

FRA/Junior Chair: Dr. Nathan Scholten
MSAFRA@msaaz.org

Mineral Curator: Chris Whitney-Smith
ChrisWS@msaaz.org (602) 405-1502

Social Coord/Refreshments: Carlie Murphy/
Joyce Hendrix (At-Large)
MSAClub1935@msaaz.org

Education/Outreach Coord: Lynne Dyer
unodyers@hotmail.com (480) 396-2393

Hospitality/Door Prizes: Bob Holm
MSAClub1935@msaaz.org (623) 247-1325

Associate Photographer: Steve Kaminski
MSAClub1935@msaaz.org (480) 321-9749

Print Coordinator: Don Boushelle
MSAClub1935@msaaz.org (602) 618-4631

Coalition Field Trips: Joseph Philpott Jr.
JosephP@msaaz.org (602) 828-9298

Statutory Agent: Terry Dyer
MSAClub1935@msaaz.org (480) 396-2393

Board Governors

Term Expires (2020) Term Expires (2018)

Mike Williams	Don Boushelle
Carlie Murphy	Terry Dyer

Term Expires (2019) Past President

Steve Kaminski	Dr. Raymond Grant
Bob Holm	

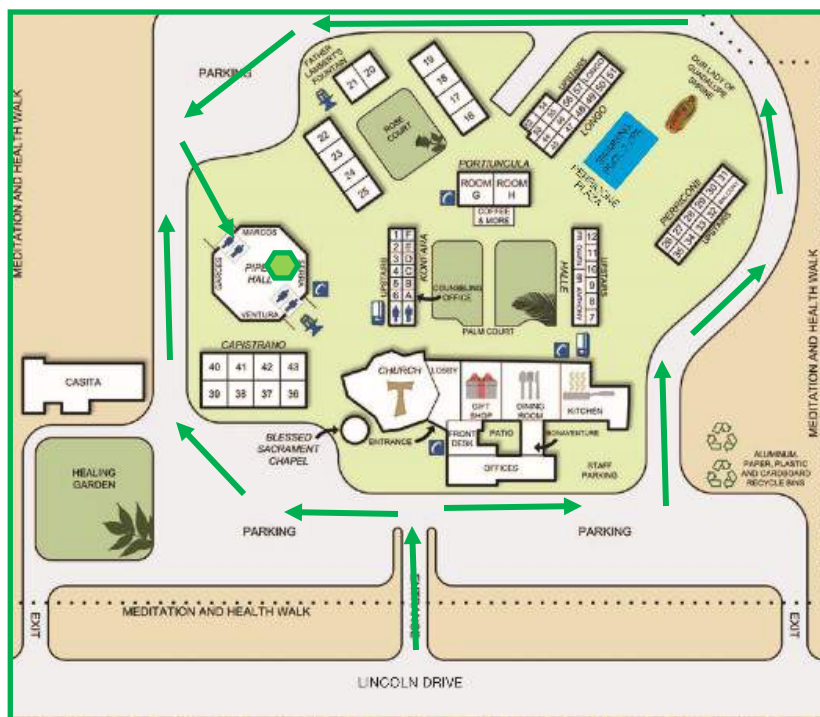
Meeting Location

Franciscan Renewal Center, Piper Hall
5802 E. Lincoln Drive, Scottsdale, AZ 85253.

* Future Rockhounds of America Junior members arrive 6:40PM and Junior meeting starts 6:45PM.

* General meeting members arrive 7:00PM. Meeting starts at 7:30PM unless noted otherwise.

* Brief business meeting, raffles, silent auctions, refreshments & buy/sell/trade events after program.



Upcoming Programs

March 8th	7:30pm	Bob Downs "Mars, Mineralogy and Museums"
April 12th	7:30pm	Dr. Raymond Grant "Lost Mines"

Social Coordinators Corner

By Joyce Hendrix & Carlie Murphy

For Monthly MSA Meetings:

If your last name begins with the letters listed during each month; please bring in a snack of your choice to share with MSA members after general meetings. Your cooperation is greatly appreciated.

MSA will supply drinks.

Refreshment Volunteer List

January	A, B or C
February	D, E or F
March	G, H or I
April	J, K or L
May	M, N or O
June	P, Q or R
September	S, T or U
October	V, W, X, Y or Z
November	Open to everyone.

Please bring something to share with your friends.

**** Suggestions for refreshment foods to bring ****

Any type of chips, pretzels, cookies, crackers, fruit, vegetable or meat and cheese trays.

This is a volunteer effort and we appreciate your help in making our social time special for all club members.

Thank You.

RSVP

Refreshments you will bring to:

carlies_email@yahoo.com

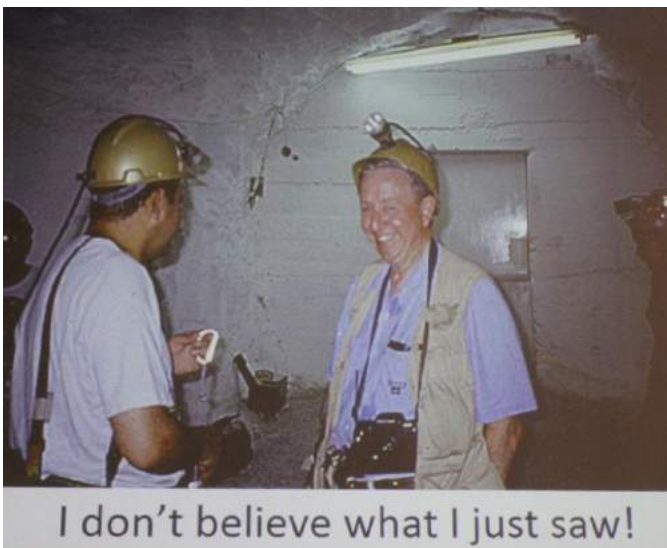
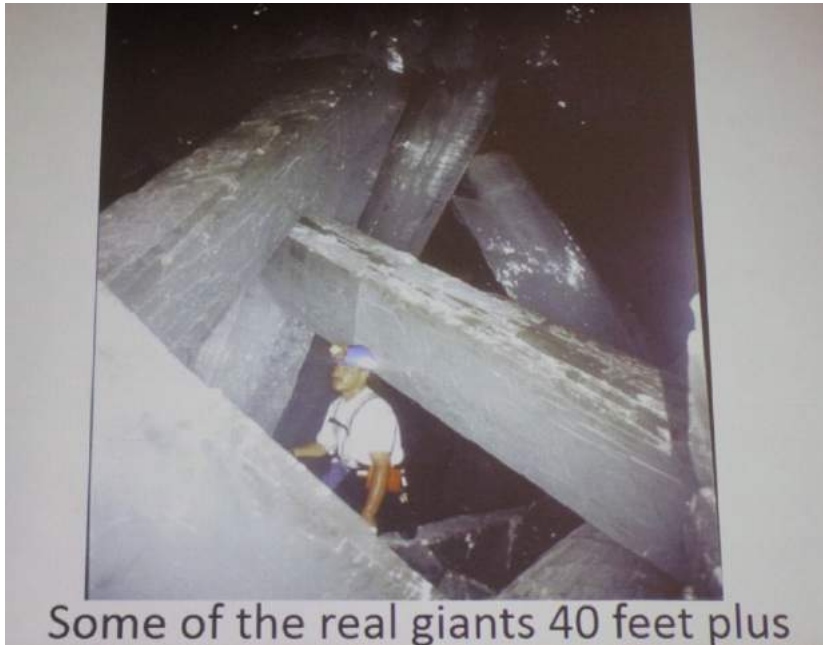
Last Months Highlights: Raffle/ Name Badge Winners



Last Months Highlights: Meeting



Last Months Highlights: Program Bob Jones Selenite Giants of Mexico



Last Months Highlights: Field Trip Florence area



Last Months Highlights: MSA TGMS Competition Results

RIBBON	PLAQUE	NAME	GROUP	CLASS	CLASS ID
1st Place Junior	Best Junior	David Tibbits	Junior	B-11	Thumbnails
2nd Place Junior		Wyatt Busby	Junior	B-11	Thumbnails
1st Place Junior Master	Best Junior Master	Erika Brown	Junior Master	B-11	Thumbnails
1st Place Novice	Best Novice	Cody Schwenk	Novice	B-11	Thumbnails
2nd Place Novice		Joseph Philpott Jr	Novice	B-11	Thumbnails
3rd Place Novice		Maggie Lyons	Novice	B-11	Thumbnails
1st Place Novice		Dawn Boushelle	Novice	B-6	One Species (Calcite)
1st Place Advanced	Best Advanced	Chris Whitney-Smith	Advanced	B-11	Thumbnails
1st Place Advanced		Joseph Philpott Jr	Advanced	B-8	Field Collected
2nd Place Advanced		Cody Schwenk	Advanced	B-8	Field Collected

BEST OF THEME	THUMBNAIL	TOENAIL	CABINET
	Alex Shauss	Chris Whitney-Smith	Les Presmyk

MSA Members TGMS Competition Results (Juniors/ Junior Masters)



Erika Brown
1st Place
B-11 Thumbnails
Junior Master
Best Junior Master Case



David Tibbits
1st Place
B-11 Thumbnails Junior



Wyatt Busby
2nd Place
B-11 Thumbnails Junior

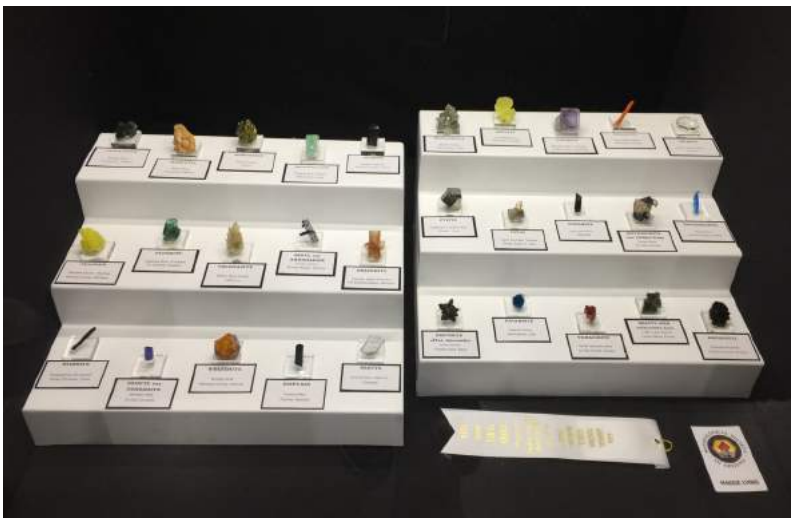
MSA Members TGMS Competition Results (Adult Novice)



Cody Schwenk
1st Place B-11 Thumbnails
Novice
Best Novice Case



Joseph Philpott Jr
2nd Place B-11 Thumbnails
Novice



Maggie Lyons
3rd Place B-11 Thumbnails
Novice

Dawn Boushelle
1st Place B-6
Single Species (Calcite)
Novice



MSA Members TGMS Competition Results (Adult Advanced)

Chris Whitney-Smith
1st Place
B-11 Thumbnails
Advanced
Best Advanced Case



Joseph Philpott Jr
1st Place B-8 Field Collected
Advanced

Cody Schwenk
2nd Place B-8 Field Collected
Advanced



MSA Members TGMS Competition Results (Best of Theme)



Les Presmyk
Cabinet
Best of Theme



Alex Shauss
Thumbnail
Best of Theme



Chris Whitney-Smith
Toenail
Best of Theme

WINNER CARNEGIE MINERALOGICAL AWARD — LES PRESMYK

By Chris Whitney-Smith and Carnegie Museum of Natural History

I'm proud to share MSA's own Les Presmyk joins following Mineralogical Society of Arizona members who have been recipients of prestigious Carnegie award: Bob Jones (1998) and Jeff Scovil (2007).

Carnegie Museum of Natural History is pleased to announce W. Lesley Presmyk, a retired mining engineer in Arizona, as the winner of the prestigious 2017 Carnegie Mineralogical Award. The Carnegie Mineralogical Award honors outstanding contributions in mineralogical preservation, conservation and education.

Presmyk has spent 44 years working with hard rock and coal, and recently retired. His accomplishments include managing the Red Cloud Mine project, consulting on the San Francisco Mine and Rushy Creek Mine, and working on other specimen-collecting mining projects. Presmyk is the co-author of the 2012 book "Collecting Arizona: State of Mines, Legacy of Minerals," and a contributing author for the 2008 book "American Mineral Treasures." He has written many articles for "The Mineralogical Record" and "Rocks & Minerals."



"Les Presmyk is an excellent choice for the 2017 Carnegie Mineralogical Award," says Debra L. Wilson, Collection Manager of Minerals and Gems. "He has a deep reverence and passion for the stewardship of minerals and the mineral world, and has been called a luminary figure in Arizona mineralogy."

Presmyk accepted the award, which includes a \$3,000 cash prize, at the 2018 Tucson Gem and Mineral Show on February 10; Presmyk attended the prestigious show for the 55th consecutive time, and he is vice president of the show's board of directors. Presmyk also was one of the original inductees into the Mineralogical Society of Arizona's Hall of Fame (2014), and he served as president (1989-1990). He also served as chairman of the Flag Mineral Foundation's Board of Directors, and got the A.L. Flag Distinguished Service Award (2002).

Presmyk has been involved with many community-service organizations and projects over the years, including serving as chair of the Gilbert Parks and Recreation Board since 2011, and serving as vice-chair of the Dignity Foundation Board.

Carnegie Museum of Natural History established the Carnegie Mineralogical Award, funded by the Hellman Foundation, in 1987.

Les Presmyk accepting the 2017 Carnegie Mineralogical Award from Eric Dorfman; (c) carnegiemi.org.

This Months Program: “Mars, Mineralogy and Museums”

Presented by: Dr. Bob Downs

Our March 8th program speaker is the great Dr. Bob Downs, Professor Department of Geosciences, University of Arizona and Director and Curator of the University of Arizona Gem & Mineral Museum. Bob’s program “**Mars, Mineralogy and Museums**” will discuss role of University of Arizona Gem & Mineral Museum in providing education, outreach and research. Bob will summarize UA museum with a detailed review from 2008 when Bob was appointed curator and director. The program integrates exploration of Mars, research on minerals including the discovery of the new mineral Raygrantite (named in honor of MSA Past President Raymond Grant), and the development of a new museum to be located in the old Pima County Courthouse.

Bob’s field of specialization is the crystallography and spectroscopy of minerals, with emphasis on crystal chemistry, bonding, temperature and pressure effects, characterization and identification. Bob earned B.S. Mathematics 1986 University of British Columbia, M.S. Geological Sciences 1989 Virginia Tech and Ph.D. Geological Sciences 1992 Virginia Tech and he is honoree of mineral species: Bobdownsite.

He has authored hundreds of abstracts, papers, articles and three books for American Mineralogist, Canadian Mineralogist, Australian Journal of Chemistry, Zeitschrift fur Kristallographie, International Union of Crystallography, Nature, Science, Elements, Journal of Geophysical Research, Physics and Chemistry of Minerals, Mineralogical Society of America, Acta Crystallographica, Journal of Raman Spectroscopy, Spectroscopy, Journal of Geoscience Education, Journal of Molecular Catalysis A, Journal of Physical Chemistry, Geological Society of America, The Mineralogical Record, Meteoritics & Planetary Science, Space Science Reviews, Geochimica et Cosmochimica Acta 98, Physics of Earth and Planetary Interiors, Society of Economic Geologists Special Publication, Mathematical Geosciences, National Academy of Sciences of the United States of America, The Masonry Society Journal.



**Dr. Bob Downs, Professor
Geosciences University of
Arizona and
Director/Curator UA Gem &
Mineral Museum, © Bob
Downs.**

Honors and Awards:

- American Federation of Mineralogical Societies Scholarship, 1990 – 1992
- International Union of Crystallography Young Scientist Award, 1992
- Leonard G. Berry Medal, The Mineralogical Association of Canada, 2002
- Fellow of the Mineralogical Society of America, 2002
- Fellow of the American Association for the Advancement of Science, AAAS, 2009
- Tait K T, Barkley M C, Thompson R M, Origlieri M J, Evans S H, Prewitt C T, Yang H (2011)
- Bobdownsite, a new mineral species from Big Fish River, Yukon, Canada, and its structural relationship with whitlockite-type compounds. The Canadian Mineralogist 49, 1065-1078
- NASA and the Jet Propulsion Laboratory 2009 Mars Rover Mission Science Review Board

Professional Memberships:

- Mineralogical Association of Canada, 1986 – present
- Mineralogical Society of America, 1988 – present
- American Geophysical Union, 1997 – present
- Elected member of the International Centre for Diffraction Data, 1999 – present
- Deutsche Mineralogische Gesellschaft: 2002 – present
- American Association for the Advancement of Science: 2007 – present

Arizona Mineral Collector– No 206

By Dr. Raymond Grant

From last month's Arizona Mineral Collector, we see that many mines have multiple names or just made up new names to keep them secret. This month a few items about some of the lost mines in Maricopa County. This is in preparation for my program at the MSA meeting in April about lost mines in Maricopa and Pinal County (and maybe about a few found ones).



A good place to start the search for lost mines is in the Mineralogical Record volume fourteen, number five, 1983. It has a long article and list of lost mines in Arizona. It has 27 lost mines listed for Maricopa County. Most are gold mines, the most famous one being the Lost Dutchman. It and many others such as Wagoner Mine, Sanders Mine, Peralta Mine, Pack Rat Mine, John Carroll Mine and the Dr. Thorne Mine are lost in the Superstition Mountains. Other lost gold mines are in the White Tank Mountains, Gila Bend Mountains, Sierra Estrella Mountains, Four Peaks, Morgan City Wash, and near Mobile.

For mineral collectors maybe the other lost mines are of more interest, who needs more gold specimens? Lost silver mines would be next in interest and there is one, the Frenchman Mine in the Sierra Estrella Mountains. The story says that about 1858 two Frenchmen appeared in Phoenix with a quantity of rich silver ore to sell (a little problem, I don't think there was a Phoenix in 1858?) from the Sierra Estrellas. They came back again with

more, but then disappeared. The Sierra Estrellas are very rugged, but there are both lost gold and silver mines there so what is a little climbing when there is treasure waiting?

Out in the Saucedo Mountains south of Gila Bend is a lost tungsten mine. John Linger of Ajo in the early 1900s found a rich tungsten deposit near Hat Mountain in the Saucedas but never did anything with it, after his death during the World War II tungsten was in demand and a search for his deposit did not find it. Unfortunately, it is now lost on the Goldwater Air Force Range so off limits.

There are also stories of lost copper and mercury mines, but we have plenty of those already found.



Mineral of the Month: TORBERNITE $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 12\text{H}_2\text{O}$

By Dr. Raymond Grant

Mineral of the Month for March is Torbernite, copper uranyl phosphate hydrate, $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 12\text{H}_2\text{O}$. It is tetragonal, light to dark green, and the hardness is 2 – 2.5. Metatorbernite $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$ has the same chemistry only 8 waters instead of twelve. Over time torbernite will dehydrate and change to metatorbernite and so the two are always found together. The best way to identify them is by the green square crystals. Telling them apart visually is not possible although metatorbernite may have a dull luster because of the loss of water.

They are widely distributed; commonly found in the oxidized zones of uranium deposits, and are both found at many localities in Arizona. Mindat.org has a long list of localities for them in Arizona. They are found at all the uranium mines on the Colorado Plateau, especially around Monument Valley, and the uranium mines in the Sierra Ancha Mountains, and because they are copper minerals they are found at many copper mines such as Ajo, Ray, Silver Bell, Copper Cities, and Morenci.

Torbernite Properties:

- **Class:** Phosphate
- **Formula:** $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 12\text{H}_2\text{O}$
- **Color:** Emerald-green, grass-green, leek green, siskin green, apple green
- **Luster:** Sub-Adamantine, Vitreous, Waxy, Pearly
- **Hardness:** 2 - 2½
- **Cleavage:** Perfect
- **Streak:** Pale green
- **Specific Gravity:** 3.22
- **Crystal System:** Tetragonal
- **Member of:** Autunite Group



METATORBERNITE
 $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$
6.6cm
Musonoi Mine, Kolwezi, Katanga, DR
Congo;
Scott Rudolph Collection, © Jeff Scovil.



METATORBERNITE
 $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$
6.7cm
Margabal, Aveyron, France;
K & M Proctor Collection, © Jeff Scovil.

Mineral of the Month Photos: **TORBERNITE** $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 12\text{H}_2\text{O}$



METATORBERNITE, $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$

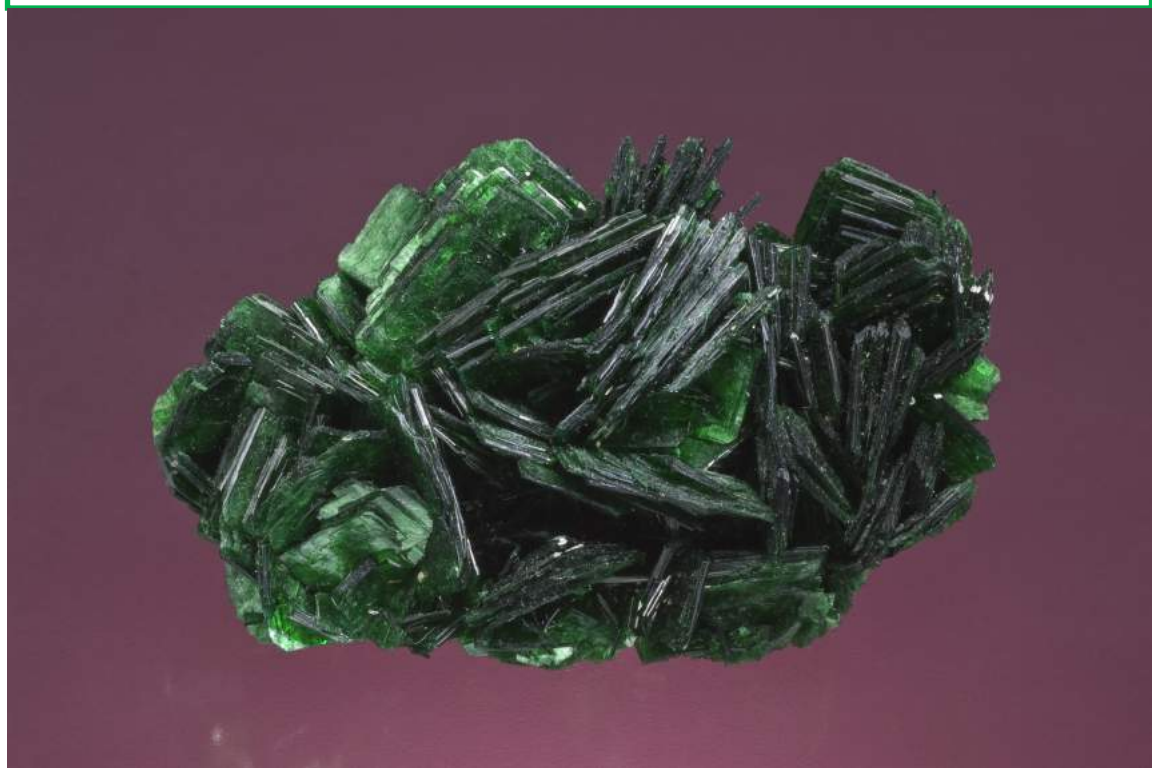
2.4cm

Nchanga Open Pit, Chingola, Copper Belt, Zambia
Alex Schauss Collection, © Jeff Scovil.

METATORBERNITE, $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$

6.5cm

Democratic Republic Congo
Bill Ferris Collection, © Jeff Scovil.



Mineral of the Month Photos: **TORBERNITE** $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 12\text{H}_2\text{O}$



METATORBERNITE, $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$

6mm,

Crown King, Bradshaw Mountains, Yavapai County, Arizona, USA

Jeff Scovil Collection, © Jeff Scovil.

METATORBERNITE, $\text{Cu}(\text{UO}_2)_2(\text{PO}_4)_2 \cdot 8\text{H}_2\text{O}$

11.8cm

Margabal, Aveyron, France

K & M Proctor Collection, © Jeff Scovil.



Field trip list 2018

Date	Location	Minerals	Leader	Vehicle Required	Extraction Difficulty	Site Terrain
January 13 th	Blue cube Mine	Fluorite, Baryte, Wulfenite, Galena	Joseph Philpott			
January 27 th	Round Mtn	Fire agate	Mike Brown			
February 24 th	Lion Springs	Almandine	Jeff Craig			
March 4 th	Florence	Selenite roses	Joseph Philpott			
March 24 th -25 th	Planet Mine	Malachite, Hematite, Chrysocolla	Cody Schwenk			
April 7 th	Corral Nuevo	Geodes	Mike Brown			
April 28 th	Bagdad	Pastellite	Nathan Scholten			
May 12 th	Carr Canyon	Quartz	Cody Schwenk			
May 19 th	Lake Pleasant	Calcite, opal	Mike Brown			
June TBD	Colorado	TBD	Joseph Philpott			
June TBD	Joseph City/Dobell	Petrified Wood	Mike brown			
August 18 th -19 th	TBD	TBD	Jeff Craig			
September 15 th	Mingus Mtn	Agate, Fossils	Nathan Scholten			
September 29 th	Anderson Mine	Carnotite, Weeksite, Agate, Fluorite	Jeff Craig			
October TBD	Trona	Halite, Hanksite	Joseph Philpott			
October 27 th	Superior	Apache tears	Nathan Scholten			
November 10 th	Mistake Mine/ Blue Owl Mine	Pyrolusite, Ramsdellite, Cerussite, Amethyst	Joseph Philpott			
November 17 th	Finch Mine	Wulfenite, Vanadinite	Mike Brown			
December 1 st -2 nd	Red Cloud Mine	Wulfenite	Joseph Philpott			
December 16 th	St. David	Selenite	Cody Schwenk			

EASY	MODERATE	HARD	EXTREMELY DIFFICULT
2WD	HIGH CLEARANCE 2WD	4X4	HIGH CLEARANCE 4X4



MSA FIELD TRIP

Planet Mine (Overnight)

March 24th-25th, 2018



Photo © Dawn Boushelle

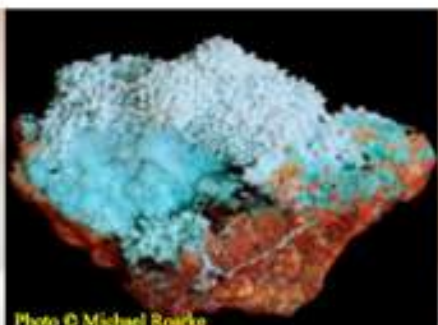


Photo © Michael Roarko



Photo © Dawn Boushelle

TRIP INFO

We will be collecting Malachite, Chrysocolla, and Hematite with the possibility of finding Barite, Azurite, and other copper/iron minerals. Saturday we will be exploring the planet mine area, and Sunday we will go to the BBC area for hematite. We may have new places to collect in the area, as well. Saturday night we will be camping near the Planet. Come prepared with food, drink, a full tank of gas and other camping needs, as we will be at least an hour from any services. You will want to top off at Vicksburg road and I-10, or at the 1 gas station in Bouse.

TRIP LEADER INFO

Name: Cody Schwenk
Phone: (217)840-8351
Vehicle: Navy Silverado

ACCESSIBILITY

2x4 dirt roads

TOOLS & ESSENTIALS

Sledge Hammers, Chisels, Hand Rakes, Buckets, Gloves, Hat, Sunscreen, Water

MEET-UP INFO

Date: Saturday, March 24-25, 2018
Time: 9:00 Am
Depart: 9:15 AM
Phone: 217-840-8351
Email: fieldtrips@msaaz.org

MEET LOCATION

Rest Stop at AZ-72 and Main (downtown Bouse)

DRIVING DIRECTIONS

Approx 1h 58min (128 miles) Total

Follow I-10 West out of Phoenix approximately 99 miles to Vicksburg Road.

Take Exit 45 (Vicksburg Road) and head North.

Turn Left onto AZ-72 and follow approximately 28 miles to Main Street in Bouse, AZ.

We will be meeting at the rest stop next to the railroad tracks, across from the Roadrunner Market



MSA FIELD TRIP

Planet Mine

Saturday, March 24-25, 2018



Flagg Mineral Foundation



The poster features a map of Arizona with various mineral regions labeled: RAWHIDE, PURPLE PASSION, RED CLOUD, ROWLEY, 79 FINCH, MAMMOTH-ST. ANTHONY, OLD YUMA, TOTAL WRECK, HILLTOP, GLOVE, and DEFIANCE. Surrounding the map are several photographs of mineral specimens, including red crystals, yellow crystals, and a large orange specimen. The text reads: **26TH ANNUAL MINERALS OF ARIZONA SYMPOSIUM**, **APRIL 13TH, 14TH and 15TH 2018**, **DRURY INN - TEMPE**. Below the map, it lists **CHAIRPERSONS:** Phil Richardson and Ray Grant, and is **SPONSORED BY** the **FLAGG MINERAL FOUNDATION**.



Minerals of Arizona
Twenty-sixth Annual Symposium
Friday April 13, Saturday April 14, and Sunday April 15, 2018

@
Drury Inn - Tempe
1780 W. Ranch Rd.

(SE corner of Warner and I-10) in Tempe (Phoenix)
The Drury rooms include breakfast, happy hour and snacks.
For non-dealers contact the hotel directly at 480-940-3700

If you want a selling table you need to reserve a room by contacting Phil Richardson at richardsonutaz@gmail.com or call 602-679-0740

Friday Program:

Micro mount session 3 to 5 PM
Tailgating session 5 to 10 PM

Saturday Program:

Light Breakfast at 8 AM, talks from 9 AM to 4:00 PM at the Drury Inn - Tempe, program talks will include:
Arizona Pseudomorphs
Pioneer District, Pinal County
Color of Wulfenite
Remembering Dr. Arthur Roe
Heavy Metals in Quartzite
Dinner at 6:00 PM with an auction of donated items.
Mexican Dinner Banquet at the Drury Inn, speaker Catie Carter, Curator of the Arizona Mining, Mineral, and Natural Resources Educational Museum.

Sunday Program: 9 AM to 11 AM: Portable XRF for analyzing gold and other minerals for their chemistry; trading or selling by individuals.

Dealers: Friday evening 5 PM to 10 PM there will be a mineral sale with dealers selling from a meeting room (each dealer can have one 8' table). Dealers may also sell on Saturday and Sunday during free time.

Registration: The registration fee (\$45) includes: Saturday light breakfast, coffee breaks, Saturday lunch, and Symposium Proceedings. The Dinner (Mexican Buffet) on Saturday night is an additional \$20.
Registration Form on next page.

Go to flaggmineralfoundation.org for the latest information.

American Federation of Mineralogical Societies

The Tar Heel Gem & Mineral Club is proud to present the 68th Annual EFMLS Convention held in conjunction with the 71st Annual AFMS Convention and the annual Tar Heel Gem & Mineral Club show. The get-together- will be held in Raleigh, NC the weekend of April 5 - 9, 2018.

Registration forms can be found on the EFMLS and AFMS website.

The host hotel for the convention is the Embassy Suites by Hilton, Raleigh Crabtree, 4700 Creedmoor Rd; Raleigh, NC 27612. Phone 919881-0000. A block of rooms has been set aside, but you must call the hotel directly to make your room reservations. Let the reservations clerk know that you are with the EFMLS Convention (or Tar Heel Gem & Mineral Club) to obtain the group rate. The rate includes a full hot breakfast each day and is good for Wednesday, April 4 through Monday, April 9.

Pinal Gem & Mineral Society



Artisan Village of Coolidge presents

INTRODUCTION TO GEOLOGY – MINERAL IDENTIFICATION



DATE: SATURDAY, FEBRUARY 17, 2018

TIME: 9:00AM-NOON

COST: \$20.00 (STUDENT'S FREE WITH PAYING ADULT)

LOCATION: PINAL GEOLOGY AND MINERAL MUSEUM, ROOM 2
ARTISAN VILLAGE OF COOLIDGE,
351 N. ARIZONA BLVD., COOLIDGE, AZ

INSTRUCTOR: RAY GRANT

CONTACT: RAYCYN1@MAC.COM

The class will include lecture material and hands on work with specimens. It will cover properties of the most common minerals and how to identify them.

PLEASE, PRE-REGISTER NOW AT: WWW.ARTISANVILLAGEOFCOOLIDGE.ORG



SPONSORED BY THE ARTISAN VILLAGE OF COOLIDGE
351 N. ARIZONA BLVD. – COOLIDGE, AZ 85128
WWW.ARTISANVILLAGEOFCOOLIDGE.ORG



Rocky Mountain Federation of Mineralogical Societies



Hotel and Show Information
RMFMS Convention & Show Hosted by
Western Dakota Gem and Mineral Society
July 20 – 22, Rapid City, South Dakota



The host venue will be the Rushmore Civic Center, all events will be located indoors at the Rushmore Arena. There will **NOT** be a host hotel as all meetings will be on-site at the Rushmore Arena.

Several meeting rooms will be available in addition to partitioned areas for presentations, special events and children's activities.

In addition to the three-day show and convention, several days have been allocated for guided tours of local geological sites and national landmarks. The exact tours and sites of interest will be finalized closer to the event date, however, we have allocated Wednesday and Thursday before the show and Monday and Tuesday after the show for off-site events.

To view the Arena and downtown Rapid City events, go here:
<https://www.gotmine.com/plan-your-visit/directions-parking>

Printable Badlands, Black Hills and Devil's Tower maps, go here:
<http://blackhillsbadlands.com/maps>

Additional info available at the Visitor's Information Center:
<http://blackhillsbadlands.com/business/black-hills-visitor-information-center>

The Civic Center and the Arena are ADA compliant inclusive of handicap parking.

Hotels and lodging info can be found at the above websites. There are ample tent and trailer campsites available within a fifty-mile radius of Rapid City.

Contact our planning committee if you have questions:
westdakota.rock@gmail.com

Shows and Events

**Pinal Gem & Mineral Society
3rd Annual Touch Outer
Space and Pinal Mineral Show
at the Museum**

March 10, 2018

Saturday 10am-4pm

(Mars, Moon and Vespa samples
10am-1pm)

Artisan Village of Coolidge

351 N. Arizona Blvd

Coolidge, Arizona

**Daisy Mountain Rock and
Mineral Club**

Gem and Mineral Show

March 24-25

Saturday 9am-5pm

Sunday 10am-4pm

Admission: Adults \$3

\$2 Seniors and Students

12 and under free

Boulder Creek High School

40404 N Gavilan Peak Pkwy.

Anthem, Arizona 85806

www.dmrmc.com

Mohave County Gemstoners

**Annual Gem and Mineral
Show**

May 5-6

Saturday 9am-5pm

Sunday 9am-4pm

Admission is free

Kingman Academy Of Learning
High School Gym

3420 N. Burbank Ave,

Kingman, Arizona

www.gemstoners.com

MINERALOGICAL SOCIETY OF ARIZONA
EDITOR, THE ROCKHOUND RECORD
P.O. BOX 54307
PHOENIX, AZ 85078



ISSN 2572-7486

MINERALOGICAL SOCIETY OF ARIZONA

Established 1935

501(c)(3) Non-Profit Organization

EXPLORE <> SHARE <> INSPIRE

PURPOSE: To promote popular interest and education in Earth Science, and related fields (Geology, Mineralogy, Paleontology, and Lapidary arts). To foster a fellowship among individuals interested in Earth Science and enable our members to better identify materials we collect, and how to display or further process these materials. To teach all generations about rocks, minerals, fossils, and what can be done with them, and be collaborative in community of groups with similar interests to our Society.

MEETINGS: 7:30 p.m. Second Thursday of the month, September through June; however, must confirm meeting location, dates and times at MSA website msaaz.org.

CONTACT US: MSAClub1935@msaaz.org

Annual Dues / Rates

Couple - \$36.00

Single Adults - \$24.00

Junior (Under 18), Honorary and MSA Milestone Life members - FREE

MSA Legacy Life members are FREE (after the initial payment).

For information about purchasing a Life Membership based on your age, please visit our website: msaaz.org and click on "MSA Club" tab.



msaaz.org



Rocky Mountain Federation of Mineralogical Societies

rmfms.org



American Federation of Mineralogical Societies

amfed.org

Reprinting permission granted with proper credit