

Lake George Gem & Mineral Club

Club News

February, 2019



Program for the Month: Saturday, February 9, 2019, 10:00 a.m.

Dinosaurs, Displays, and Information from a highly respected facility in our area—the Woodland Park Dinosaur Resource Center.

Reminder: Renew your membership soon (before the end of March)! There are 3 ways to do this. (1) Go to the LGGMClub website and log in. You can pay via a credit card with no paper work or postage. (2) Fill in the membership form at the end of this newsletter and mail it with a check. (3) Come to either the February or March meeting and fill in the form and pay Cathy. Dues have not gone up! Still \$15 for an individual and \$25 for a family.

Silent Auction: We need donations for the silent auction! If you have “extras”, whether minerals, fossils, books, or other items, and if you have a label saying what the item is and where it came from, we can use it. If not, bring some cash and be prepared to help support Club activities, including scholarships, Pebble Pups, and other items.

From the President -- Richard Kawamoto:

Robert Baker has been working to organize programs for 2019. Thus far, we have the following speakers/programs scheduled:

March - Paul Combs, Dinosaur Tracks-A footprint in the mud or the key to unlock answers to many of our questions about dinosaur behavior

April - John Rakowski, Rockhounding 101

May - Markus Raschke, Research on minerals of the Pikes Peak batholith

June - Conrad North, Fluorescent minerals (field-trip prep)

July - Bob Carnein, Basic geology of the Colorado Springs/Ute Pass area (field-trip prep)

August - Open

September - Open

October - Richard Walker, Meteorite find near Cotopaxi. Use of metal detectors

November - Doug White, Newmont CC&V geology of Cripple Creek gold mine

December - Towel show, no presentation

Reaching out to Christine Siddoway - Tava Sandstone Formation

Steve Gorman - History of Gold City claim

Officers for 2019

Lake George Gem & Mineral Club

February, 2019

Richard Kawamoto – President
John Rakowski – Vice President
Lorrie Hutchinson - Secretary
Cathy McLaughlin – Treasurer
Bob Carnein, - Newsletter Editor (**Taylor Harper, Jerrolynn Kawamoto**, Asst. Editors)
Danny Alfrey-Research, webmaster, coordination of club claim
Joey Korzekwa-Web updates & design
Dave Alexander and **Laura Canini** – Field Trip Coordinators
Steven Veatch – Pebble Pups Leader
Paul Combs – Fossil Study Group Leader
Jay Penn – Show Vendor Coordinator (by mail and email) and Show Host (on site)

While these leaders will help to guide the club, additional volunteers will be needed throughout the year to lead individual field trips, and to help with publicity, setup, and coordination of the annual LGGM Club show, etc. The Club show is still months away, and we are still in need of a Club-Show Coordinator. If you are interested in becoming involved, please contact any of the club officers/leaders.

It's cold and white outside, but the club is already stirring. I look forward to seeing all of you for a fun-filled year of all things rocks and hope you are eagerly anticipating it too.

Richard Kawamoto

Upcoming LGGM Club Events:

- **February 3: Field-Trip Planning Meeting (Leadership Group).** If you have ideas for field trips, please contact a club officer or either Laura Canini (caninilaura@gmail.com) or Dave Alexander (dave@davealex.com).
- **February 23: First Pebble Pups Field Trip (see below).**
- **April ? (TBD): Mineral Physical Properties** by **Bob Carnein**
This 4-hour class will cover the physical properties of various minerals and ways that you can easily test these properties to help identify the minerals you have found.
- **May ? (TBD): Basic Wire Wrapping** by **Jerrolynn Kawamoto**
Darlene Cotton will be assisting in the course. If you have taken this course in the past, your help would also be welcome and would allow us to accommodate more students.

OTHER COMING EVENTS: (Nearby gem, mineral, fossil and geology events that you may enjoy.)

- **Cañon City Geology Club**, meets on the 2nd Monday of the month at 6PM in the United Methodist Church, Cañon City
- **Columbine Gem & Mineral Society**, meets on the 2nd Thursday of each month, 6:30PM in the meeting room, Mt. Shavano Manor, 525 W. 16th (at J St.), Salida
- **Pueblo Rockhounds**, meets on the 3rd Thursday of each month at 6:30PM in the Westminster Presbyterian Church, 10 University Circle, Pueblo.
- **Pete Modreski** suggests the following upcoming events:

Now through March 31: The Conifer Historical Society hosts a special exhibit on “**Mining in Jefferson County**” at Conifer’s “Little White School House” meeting place, at 26951 Barkley Road, Conifer. The exhibit will be open (no admission charge; donations accepted) just one day a week, every Sunday from 11 a.m. to 3 p.m. Two special programs will be presented in conjunction with the exhibit; admission to each program will be \$8/\$10 for members/nonmembers:

Sun., Feb. 10, 1:00 p.m., How the 1859 Gold Rush put Colorado on the map, by Wes Brown
Sun. Mar. 10, 1:00 p.m., Frontier mining methods, by Ed Raines

In addition, there will be a special “**Bring your favorite rocks and minerals**” (and a School of Mines geology student will identify them) day, **Sunday, Feb. 17**, 11 a.m. – 1 p.m.; no charge to come. For more information about the Historical Society and the exhibit, or to make reservations to attend the lectures, see <https://www.coniferhistoricalsociety.org/events/>.

Mon., Feb. 4, 7:00 p.m., monthly meeting of the Western Interior Paleontological Society (WIPS), “**In the Footsteps of Early Paleontologists, Finding Historic Photo Sites in Badlands National Park**”, by Emmett Evanoff, Kathy Brill, and Justin Little. At Lowry Conference Center, 1061 Akron Way, Denver CO; all are welcome. See <https://www.westernpaleo.org/> for more info and an abstract (and photo illustrations) of the presentation.

Thurs., Feb. 7, 4:00 p.m., Van Tuyl Lecture series at CSM, “**Low-latitude Arc-continent Collision as a Driver for Global Cooling**” by Oliver Jagoutz, M.I.T. Berthoud Hall room 241; all are welcome.

Fri., Feb. 8, 7:30 p.m., “**Fossil Turtle Tracks, Marshall, Colorado**”, by Dr. Sue Ellen Hirschfeld, of Boulder, CO. “Dr. Hirschfeld discovered a unique fossil track site just east of Marshall, CO. DGMG members helped map the original site in the spring of 2018. Since then, over 500 tracks have been mapped and recorded, and some of the finest fossil turtle tracks ever found have been photographed, cast, and molded, along with crocodile and dinosaur tracks. Come hear about the discoveries!” At the monthly meeting of the Denver Gem and Mineral Guild, Berthoud Hall, Room 109 (lower level), Colorado School of Mines campus; all are welcome. Parking is on campus streets or lots (no parking charge after 5 p.m.). For details see the club’s January or February newsletters (the program was rescheduled from January due to snow), <http://mineralguild.wixsite.com/newsletters>.

Tues., Feb. 12, 7:00-9:00 p.m., **WMMI Speakers' Bureau Lecture: "Mining High Grade Ore"**, presented by Calvin Johnson. “Calvin Johnson, with Gold Prospectors Of Colorado (GPOC), will give a presentation accounting his "Experience of a Lifetime" in the recovery of a quartz vein that assayed at 2281.7 ounces per ton containing crystalline (93.887 fine) gold wires. In layman’s terms, that equals \$2.8 million dollars per ton. The gold is in sugar quartz, which is very rare on its own. Calvin will have samples for all of us to gaze upon (sorry no touching). The samples are very fragile and some crystalline gold wire falls out when handled.” Western Museum of Mining & Industry, 225 North Gate Blvd., Colorado Springs, CO 80921 (In the museum library). RSVP to 719-488-0880 or email rsvp@wmmi.org. Fee \$5, free to WMMI members.

Fri.-Sat.-Sun., Feb. 22-24, Denver Gem & Mineral Guild Jewelry, Gem, and Mineral Show, Jefferson County Fair Grounds, 15200 W. 6th Ave., Golden, CO. Free parking & free admission; hours 10-6 Fri. & Sat., 10-5 Sun.

Thurs., Feb. 21, 7:00 p.m., Ken Balleweg (Consulting Geologist), “**The Beulah marble: Ornamental stones of Colorado**”, and Don McGurk (Rocky Mountain Map Society), “**Geographies Unrealized, The Story of Four Cartographic Myths of North America.**” Monthly meeting of the Colorado Scientific Society, Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood; all are welcome; social time & refreshments at 6:30, meeting at 7:00.

Thurs., Mar. 21, 7:00 p.m., “**A Cook’s Tour of Colorado’s Glacial Landscape**” by Dr. Vince Matthews. Monthly meeting of the Colorado Scientific Society, Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood; all are welcome.

Fri.-Sat.-Sun., Mar. 22-24, Fort Collins Gem & Mineral Show; at Thomas M. McKee Building, at The Ranch/Larimer County Fairgrounds, 5280 Arena Circle, Loveland, CO (I-25 exit 259); hours 4-8 Fri., 9-6 Sat., 10-5 Sun. Sponsored by the Fort Collins Rockhounds Club.

Sat.-Sun., Mar. 23-24, WIPS (Western Interior Paleontological Society) semi-annual Founders Symposium, “**Lagerstätten: Exceptional Preservation, Extraordinary Fossils**”. To be held at Lowry Conference Center, 1061 Akron Way, Denver. Two days of lectures, educational exhibits, displays of fossils, paleo art show and sale with over a dozen artists. (There is a registration fee to attend the symposium—none to just see the exhibit hall and/or to help staff the CSS table. Please contact one of the CSS officers, if you are interested in helping!) For full information on the Symposium, see https://www.westernpaleo.org/symposiums/2019_pages/about-2019.php.

Apr. 2-11, geologist Lew Kleinhans is leading a 9-Day Grand Canyon Geology float trip from April 2-11, which has between 5 and 10 spaces remaining. This is scheduled at a time few get to float the river and generally is more attractive to the more adventurous adventurers, owing to variable temperatures (generally between 55 and 85);

i.e., great hiking, fishing, sleeping, and occasional swimming weather and lots of wildflowers. For more info, please contact Lew, lewis.oysterclub@gmail.com, or write to me (pmodreski@gmail.com) and I'll forward you a flier about the trip.

Fri.-Sat.-Sun., Apr. 12-14, Colorado Mineral and Fossil Spring Show, Crown Plaza Hotel /Convention Center, 15500 E 40th Ave., Denver, Colorado, 10-6 Fri. & Sat., 10-5 Sun., free parking & admission.

Sun., May 19, Friends of Mineralogy, Colorado Chapter, Silent (+Vocal) Auction. Noon to 4 p.m., Clements Community Center, 1580 Yarrow St., Lakewood CO. All are welcome to attend.

Fri.-Sat.-Sun., May 31-June 2, Pikes Peak Gem & Mineral Show, Norris-Penrose Event Center, 1045 Lower Gold Camp Road, Colorado Springs, CO 80905. Sponsored by the Colorado Springs Mineralogical Society.

For more lecture series during the year see:

Colorado Beer Talks (2nd Tuesday, 6-8 p.m.), Windy Saddle Café, 1110 Washington Avenue, Golden, "Golden's grassroots version of TED talks, Expand your mind with a beer in your hand", <http://goldenbeertalks.org/>

Colorado Café Scientifique in Denver, monthly lectures on science topics held either at Blake Street Station or Brooklyn's, Denver; open to the public, no charge other than refreshments you may choose to purchase; see <http://cafescicolorado.org/>.

Colorado Scientific Society (3rd Thursday, 7 p.m.), see <http://coloscisoc.org/>. Meets at Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood CO, except when noted.

CU Geological Science Colloquium (Wednesdays, 4 p.m.)

see <http://www.colorado.edu/geologicalsciences/colloquium>

CSU Dept. of Geoscience Seminars (Fridays, 4 p.m.),

see <https://warnercnr.colostate.edu/geosciences/geosciences-seminar-series/>

Van Tuyl Lecture Series, Colorado School of Mines, (Thursdays, 4 p.m.): <https://geology.mines.edu/events-calendar/lectures/>

Denver Mining Club (Mondays, 11:30), see <http://www.denverminingclub.org/>.

Denver Museum of Nature and Science, Earth Science Colloquium series, 3:00-4:00 p.m., VIP Room unless noted, day of the week varies. Museum admission is not required;

see <http://www.dmns.org/science/research/earth-sciences/>

Denver Region Exploration Geologists Society (DREGS; 1st Monday, 7 p.m.), <http://www.dregs.org/index.html>

Florissant Scientific Society (FSS); meets monthly in various Front Range locations for a lecture or field trip; meeting locations vary, normally on Sundays at noon; all interested persons are welcome to attend the meetings and trips; see <http://www.fss-co.org/> for details and schedules.

Nerd Night Denver is a theater-style evening featuring usually 3 short (20-minute) TED-style talks on science or related topics; held more-or-less monthly at the Oriental Theater, 4335 W. 44th Ave., Denver; drinks are available; for ages 18+. Admission is \$6 online in advance, \$10 at the door. See <https://www.nerdnitedenver.com/>.

Rocky Mountain Map Society (RMMS; Denver Public Library, Gates Room, 3rd Tuesday, 5:30 p.m.), <http://rmmaps.org/>

Western Interior Paleontological Society (WIPS); beginning January 2019, WIPS will meet on the 1st Monday of the month, 7 p.m., at Lowry Conference Center, 1061 Akron Way, Denver. See <http://westernpaleo.org/>.

Pebble Pups Events; LGGM Club News:

PEBBLE PUPS AND EARTH-SCIENCE SCHOLARS FIRST FIELD TRIP 2019

Rainbow Falls Winter Waterfall Viewing and Geologic Walk

Grab your camera, dress warm, and bring a lunch. The Pikes Peak Pebble Pups and Earth-Science Scholars will spend part of the day exploring El Paso County's Rainbow Falls (near Manitou Springs at the gateway to Ute Pass). We will look at geological processes in the park, learn about stratigraphy, and touch the great nonconformity revealed in the park.

This is an excellent opportunity to look at local geology and take some great photos while getting outdoors. Hosted by Bear Creek Nature Center & Fountain Creek Nature Center and El Paso County



Parks. We will have lunch together at a park in Manitou Springs. There is a **\$1 charge for admission** to the falls. Your **club dues must be current** to attend this special non-collecting field trip.

Date: Saturday, February 23, 2019 Time: 11 AM Meet: at the entrance to the Rainbow Falls Park

To register: you must email Steven Veatch to register for this trip steven.veatch@gmail.com

>>Paul Combs sent this item:

DINOSAUR PASSION PITS

In January, 2016, paleontologist Martin Lockley and his team at the University of Colorado at Denver published a paper announcing their interpretation of more than 50 odd-looking dinosaur “scraping sites” in Colorado and South Dakota. The sites were discovered in the Dakota Sandstone, and they are Middle Cretaceous in age (about 100 million years old).

The dinosaurs that created them were very large theropods (relatives of *Tyrannosaurus rex*, or probably the famous *T. rex* itself). The study areas are peppered with huge *Tyrannosaurus rex*-type tracks, leaving little doubt about who made the scrapes. The odd scrapes always occur in parallel pairs (one for each foot), and each one measures approximately 6 feet (2.0 m) long and 3 feet (1.0 m) wide. Each scrape is about the size of a bathtub but less than a foot deep. Deep claw marks are clearly visible at one end of each pair of scrapes. There are several pairs of scrapes at each site, and many of them are exquisitely preserved.

Lockley, an internationally acclaimed expert on dinosaur tracks, had been puzzling over the paired scrapes because no theory on their origin seemed to fit. Maybe the answer finally hit him because his father was a distinguished British ornithologist. Lockley’s team believes that the scrapes are physical evidence of *leks* (courtship display arenas), and male tyrannosaurs made them as part of their courtship behavior.

Birds are descended from theropod dinosaurs, the group that includes *T. rex*, and males of some ground-nesting birds, including ruddy turnstones (*Arenaria interpres*), Atlantic puffins (*Fratercula arctica*), piping plovers (*Charadrius melodus*) and spoon-billed sandpipers (*Calidris pygmaea*) use the same courtship behavior today, which ornithologists call a “nest-scrape display.” The male birds call and display to nearby females while they scrape a pair of shallow divots with both feet. We are lucky that some birds still use nest-scrape displays because they have given us a sensational peek

into the courtship behavior of their closest relatives. Watch for *Tyrannosaurus rex* nest-scraping behavior in a future dinosaur movie.

There will be a presentation about this and other recent dino-track discoveries at the next club meeting on March 9. **SEE YOU THEN!**



AN ARTIST'S IMPRESSION OF MALE TYRANNOSAURS IN A NEST-SCRAPE DISPLAY



A PAIR OF NEST-SCRAPES NEAR DELTA, COLORADO. YOU CAN EASILY SEE THE TOENAIL SCRATCHES IN THE NEAREST ENDS. EACH SCRAPE IS ABOUT 6 FEET LONG, 3 FEET WIDE AND A FEW INCHES DEEP. THE DAKOTA FORMATION IS FAMOUS FOR DINOSAUR TRACKS.

TEXT AND IMAGE SOURCE:

Lake George Gem & Mineral Club

February, 2019

Lockley, M. G., et al, 2016. *Theropod courtship: large scale physical evidence of display arenas and avian-like scrape ceremony behavior by Cretaceous dinosaurs*. *Sci. Rep.* 6, 18952. Retrieved JAN 7, 2016

Wayne Orlowski submitted the following article:

>>How old is the water in you? To find out, check this site:

<https://www.bbc.com/ideas/videos/why-water-is-one-of-the-weirdest-things-in-the-uni/p06y2c9k>

“Bench Tips” by Brad Smith
www.BradSmithJewelry.com

PROTECTING FINISHED SURFACES

I figure that any accidental scratch I make on a piece means about 15 minutes of extra sanding and polishing. So after finishing major surfaces, I typically cover them with some masking tape to avoid any scratches when doing final work like cleanups and setting of stones. The blue masking tape used by painters works particularly well because it doesn't leave a sticky residue.



PICKLE PRECAUTIONS

A hot pickle pot gives off fumes that bother me in my home workshop. I get around that by using my pickle cold. I mix it a little stronger than for a hot pot so that it works almost as quickly. I keep it in a large-mouth plastic bottle and cap it off whenever I'm done using it.

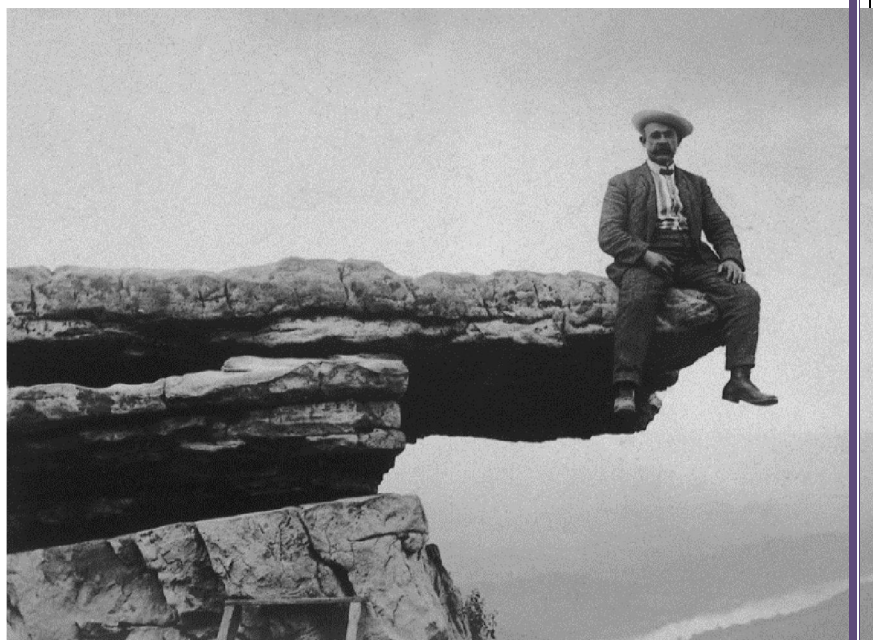
Be More Productive With Brad's "How To Do It" Books: [Amazon.com/author/bradfordsmith](https://www.amazon.com/author/bradfordsmith)

Notes from the Editor

Bob Carnein, Editor

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Here's an article documenting some recent mineral finds in the Pikes Peak Granite:

Some Recent Finds from the Crystal Peak Area, Part 1

Bob Carnein

Many mineral collectors think of the Crystal Peak district in terms of the world's finest amazonite-smoky quartz combinations. These, plus fine topaz, fluorite, albite, and the world's best goethite crystals, comprise the "big six" minerals that make the area famous. However, there are some other notable mineral occurrences. The world's finest beryl crystals were found there by Clarence Coil in the late 1960s (Eckel, 1997). Mindat.org (accessed January, 2019) currently lists 29 valid mineral species from the pegmatites near Crystal Peak.

This short paper documents a few recent finds that the author thinks are especially noteworthy. They are either new minerals for the district or unusually good examples of minerals previously described. They illustrate the fact that, despite nearly 150 years of collecting in the area, you, too, might find something new and exciting (at least to me)!

Find Number 1: A Fluorescent Coating The first find was made by **Valerie Babbitz** in 2017. Val brought an odd amazonite/smoky quartz combo to the Lake George Gem and Mineral Club, where she showed it to **John Rakowski** and me, asking what we thought it was (Figure 1). The specimen came from the Dorris's Smoky Hawk mine (Teller County, CO) and consists of a coating that Val reported she wasn't able to remove. Examination with a 10X hand lens suggested to the writer that it might be chalcedony, and I asked if I could borrow it for some simple testing, including examination of its optical properties. Val agreed, and I took it home.

My first routine is to check an unknown with my Stereo-Zoom microscope. The mineral consists of gray to brown botryoidal coatings that appear to be fibrous where broken (Figure 2). As is SOP for me, I then checked the sample with an ultraviolet lamp, finding that it has a bright blue fluorescence (Figure 3) and a similar but fainter phosphorescence. I tested the hardness, which is less than that of a knife blade, eliminating chalcedony

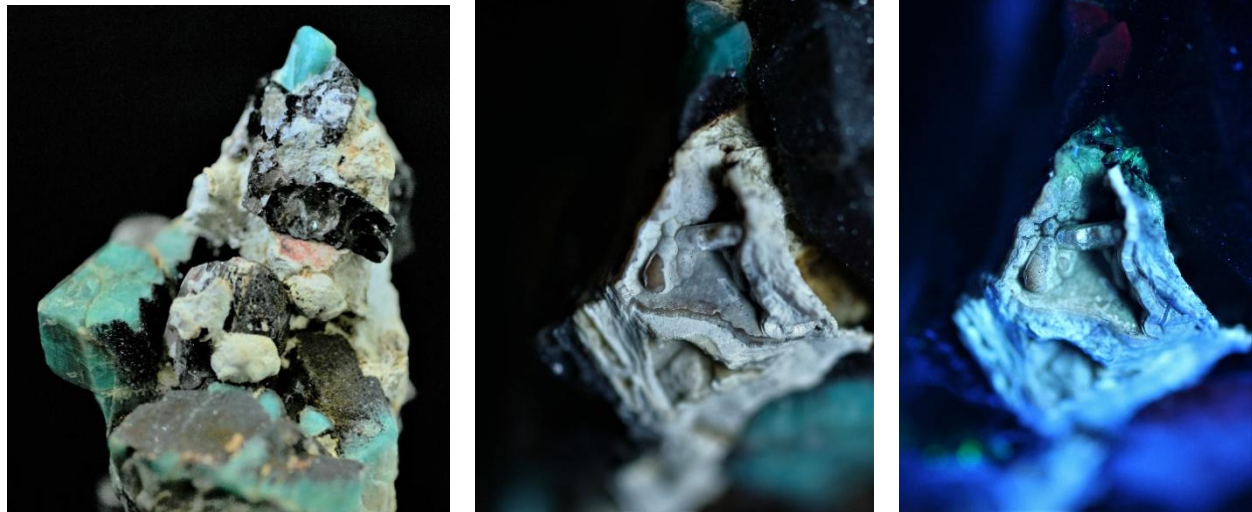


Figure 1 (left): Valerie Babbitz smoky quartz/amazonite specimen; Figure 2 (center): Close-up of unknown botryoidal mineral in cavity; Figure 3 (right) Fluorescence in shortwave UV. (Carnein photos)

I managed to remove a very small (rice-grain sized) fragment of the unknown mineral. After crushing and sieving the unknown, I mounted a few sand-sized grains on a glass slide and immersed them in an “index oil”, which is used to compare the index of refraction of the mineral with that of a standardized oil. This is a cheap and easy, but definitive, test for mineralogists who, like me, don’t have ready access to expensive instruments such as an X-ray diffractometer. To over-simplify, the tests are repeated with different index oils until a match is found. This microscopic test is somewhat laborious but is diagnostic for most non-opaque minerals.

Val’s coating turned out to be carbonite-rich hydroxylapatite, a mineral not previously described for the Smoky Hawk mine or for the Crystal Peak district as a whole. It’s lucky that Val wasn’t able to remove it; remember this when you find odd coatings.

Find Number 2. Looks Like Lichens. In 2018, I accompanied other members of the Pueblo Rockhounds on my first-ever visit to the Dorris’s Smoky Hawk mine (see above). As is my habit when I visit a “new” locality, I wandered widely over the whole site, trying to get a feel for the local rock types and trends. These peregrinations seldom produce much, but they give me an idea of where to focus my attention if and when I next visit the site.

While working my way up a pile of loose rock on the west side of the main excavation, I found some small, nearly neon-lime green “globs” and coatings on biotite flakes and in miarolitic cavities in the Pikes Peak Granite (Figures 4, 5). At first, I thought these were lichens, so I picked at them with the point of my pocket knife. Though very soft, they didn’t “give” like organic coatings (which are often somewhat springy to the touch), so I collected a few samples to take home.

In the fall of 2018, I checked the samples microscopically and tested for fluorescence. They appeared to be a clay-like material and did not fluoresce. Knowing that clays are notoriously difficult to identify, I scraped a small amount of the unknown off the samples and sent the material to Kelsey McNamara, who does X-ray diffraction analyses at New Mexico Tech. Ms. McNamara was able to identify the sample as a mixture of the clay minerals montmorillonite and vermiculite (no surprise there), along with fluorite (a complete surprise to me). Once again, the montmorillonite and vermiculite had not before been confirmed for this locality.

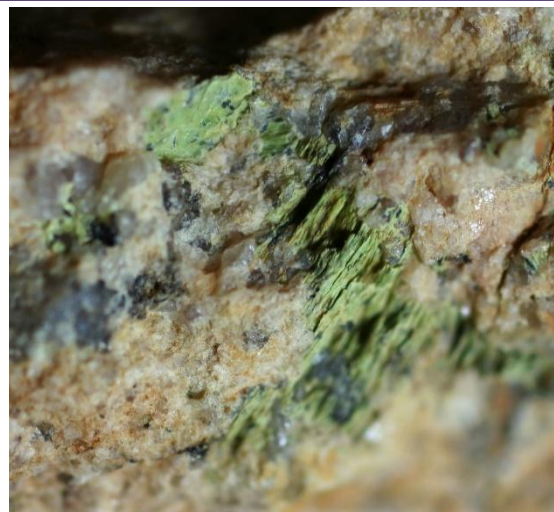


Figure 4 (left): Clayey unknown mineral masses in a cavity in Pikes Peak Granite; Figure 5 (right): Same unknown mineral coating biotite mica. (Carnein photos)

Find Number 3. Bertrandite or Baryte? Kevin Witte and Bob Germano visited my home in January, 2019. Bob showed off two spectacular, large baryte crystals found by his wife, **Eva**, near Lake George in 2009 (Figures 6, 7). I had never seen baryte from the Crystal Peak district, though I knew it is occasionally found there. If you know of any finer examples, I would love to see them.



Figure 6: (left) 6 3/4 –inch baryte crystal found by Eva Germano near Lake George; Figure 7 (right): 5-inch baryte crystal from same locality (Germano photos).

During the same visit, Kevin showed me an unidentified sample consisting of a few divergent, euhedral, light tan crystals in a shallow cavity in pegmatite (Figures 8, 9). The sample also contains some beautiful bright green fluorites, resembling those sometimes found at Erongo, Namibia, and tan microcline crystals. Kevin thought the unknown might be bertrandite, which I thought was plausible, and I offered to work on it.

As usual, I first examined the sample with my binocular microscope. The crystals are clearly orthorhombic, which agrees with bertrandite. I then checked them with UV, finding that they fluoresce a bright, pale greenish white color, with a similar phosphorescence (Figure 9).

Next, I pried out a rice-grain-size crystal from an unobtrusive place, and crushed it for optical testing. I immediately noticed that it is quite soft (estimate about 4 on the Mohs scale), which eliminates bertrandite (H=6 to 7). Index of refraction and other properties quickly showed that Kevin's sample is baryte—an odd coincidence, considering that it came from a completely different location than Bob's examples.



Figure 8 (left): Divergent crystals in pegmatite from near Lake George; Figure 9 (right): same crystals under short-wave ultraviolet radiation. (Carnein photos)

Find Number 4: Mineral X. While examining Kevin Witte's sample (above), I noticed another cavity containing what appear to be tiny, platy, hexagonal crystals about the color of Turkish kammererite (a sort of raspberry-juice-stain purple) (Figures 10, 11). Either optical or X-ray-diffraction analysis would consume the whole sample, so I didn't want to use destructive ID tests. However, **Markus Raschke** removed a tiny fragment for testing by SEM/EDX, and **Mark Dinsmore** has agreed to check the sample, using, I think, X-ray fluorescence (XRF), which doesn't require destroying the sample. I'm holding my breath, because I think this mineral is something new for the district.

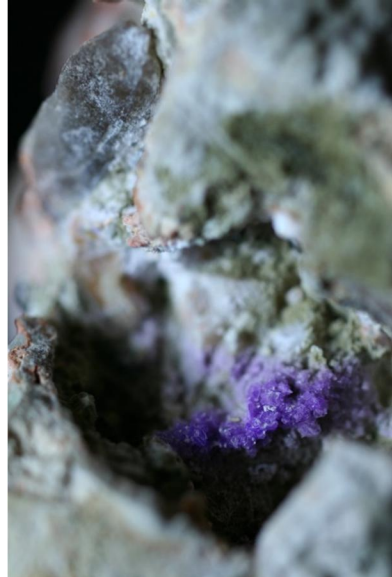


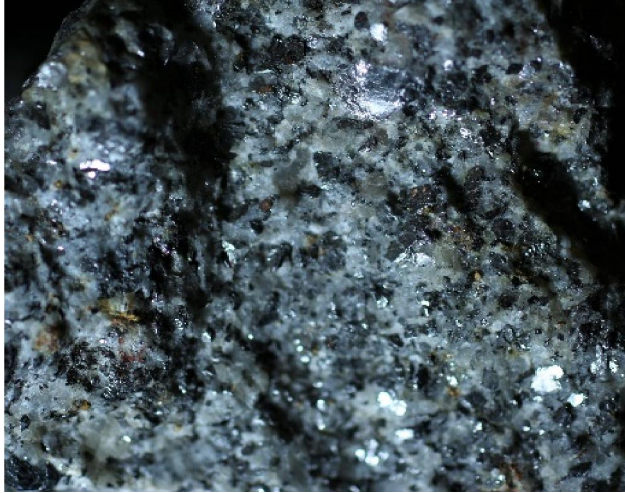
Figure 10 (left): Cavity containing Mineral X; Figure 11 (right): Close-up of "mineral X". Field of view is about 1 cm across; color is more pink than shown. (Carnein photos)

More Unknowns. Markus Raschke is working on some of the samples described in last month's newsletter, which include rare fluorides found last summer northwest of Florissant. I hope to report on those in a future article.

Reference Cited:

Eckel, E.B., 1997, *Minerals of Colorado—Updated and Revised by R.R. Cobban, et al.*: Golden, Colorado, Fulcrum Publishing..

Monthly Mineral Quiz



Last Month's Mineral: Graphite.

Graphite is a form of native carbon that commonly occurs in metamorphic rocks (especially in slate, phyllite and marble). It's dimorphous with diamond, and, under some circumstances, diamond may form from graphite that has been subducted into the Earth's mantle via plate-tectonic processes. It has a very low hardness (1 on the Mohs scale) and a "slippery" feel caused by its crystalline structure, in which very thin layers of carbon are loosely bonded together by weak bonds. Good crystals have a hexagonal outline.



This Month's Mineral

Here's a mineral whose type locality is in Colorado. It commonly occurs in radiating clusters of well formed but relatively small monoclinic crystals. Mohs hardness is less than a knife blade but greater than a penny, and specific gravity is a little more than 2.7. The color is often some shade of violet or lavender, but it can also be colorless, tan, or yellowish brown (the latter at a very prolific locality in Mexico). Don't mistake it for fluorite, with which

it commonly occurs! There are several Colorado localities, one of which is close to Lake George and Florissant. What is it?



Lake George Gem & Mineral Club

Box 171, Lake George, Colorado 80827

www.LGGMClub.org

MEMBERSHIP APPLICATION

Date: ____ / ____ /20 ____

Name/s _____

Address _____ City _____ State _____ Zip _____

Telephone (____) _____ - _____ E-mail _____

(Email is required to receive Newsletter and field trip info.)

Names/ages of minor members (if family membership): _____

Dues for Jan. 1 through Dec. 31 each year are as follows:

____ Individual (18 and over) \$15.00

____ Family (includes dependents under age 18) \$25.00

Current year membership renewal and application occurs Jan. 1-March 31, after which membership is closed for the current year. Membership/email list will be purged April 1st for the current year.

MEMBERSHIP MUST BE CURRENT TO PARTICIPATE IN ANY FIELD TRIP OR CLUB CLAIM!

I agree to abide by Club constitution, by-laws, and rules regarding field trips and club claim visits.

Signed _____ Date: ____ / ____ / ____

*I am or have previously been a member of Lake George Gem & Mineral Club. Yes ___ No ___

*My interest areas include (check all that apply): Minerals ___ Fossils ___ Lapidary ___

Micromounts ___ Colorado geology ___ Pebble Pups (ages 7-17) ___ Mining history ___

Crystallography ___ Other _____

*I am willing to give a talk/presentation to [the Club] or [Pebble Pups] on _____

and/or lead a field trip to (list) _____

*I am willing to participate/help in the following ways (can choose more than one): Club Officer _____

Newsletter Editor/Writer _____ Local Show/Show Committee _____ Nominating Committee _____

Winter Programs Committee _____ Field Trips ___ Art (Badges) ___ Membership Coordinator _____

Website assistance _____ Pebble Pups _____ Other (be specific): _____

Questions about the Club or Activities? Visit the website or contact a Club Officer. Updated 1/2018

Lake George Gem & Mineral Club

PO Box 171

Lake George, CO 80827

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PO Box 171
Lake George, CO 80827



The Lake George Gem and Mineral Club is a group of people interested in rocks and minerals, fossils, geography and history of the Pikes Peak/South Park area, Indian artifacts, and the great outdoors. The Club's informational programs and field trips provide opportunities to learn about Earth science, rocks and minerals, lapidary work and jewelry making, and to share information and experiences with other members. Guests are welcome to attend, to see what we are about!

The Club is geared primarily to amateur collectors and artisans, with programs of interest both to beginners and serious amateurs. The Club meets on the second Saturday of each month at the Lake George Community Center, located on the north side of US Highway 24 on the east edge of town, sharing a building with the county highway shops. **In the winter, we meet at 10:00AM. From April through October, we meet at 9:00AM, to allow more time for our field trips.**

Our organization is incorporated under Colorado law as a nonprofit educational organization, and is a member of the Colorado, Rocky Mountain, and American Federations of Mineralogical Societies. We also sponsor an annual Gem and Mineral Show at Lake George, where collectors and others may purchase or sell rocks, minerals, fossils, gems, or jewelry. Annual membership dues (Jan. 1 through Dec. 31) are \$15.00 for an individual (18 and over), and \$25.00 for a family (parents plus dependents under age 18).

Our Officers for 2019 are:

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