The Lake George Gem and Mineral Club -

Club News,

November 13, 10:00AM

Regular Meeting of the Lake George Gem & Mineral Club
Saturday, November 13 at 10:00AM
Lake George Community Center

Joe Dorris will give a summary of some of his recent mineral collecting successes from the Smoky Hawk Claim north of Lake George. The Smoky Hawk is one of Joe's mining claims north of Lake George where he has found and marketed world class specimens from pegmatites in the Pikes Peak Granite. New success in a new area? – NO! It's new success in an old area due to smart exploration. This area has been explored and dug since the late 1800's. If time allows Joe may share some information about his Topaz claim on Matakat Road between Lake George and Tarryall. Our club has been invited in the past to Joe's claims and hopefully will visit in the future. This is an "inside" view to the real mining activity on those claims, be sure to attend.

Coming Events

Monthly Meeting, Western Interior Paleontological Society, 7:00PM, Ricketson Auditorium, Denver Museum of Nature & Science; "Voices of Science": talks about dinosaur sites in Wyoming and Texas.	… **Nov. 1**
Bi-Monthly Meeting, Friends of Mineralogy, Colorado Chapter: "Mines and Mining History of Franklin and Sterling Hill, NJ, 7:30PM, VIP Room, Denver Museum of Nature and Science.	… **Nov. 4**
Denver Area Mineral Dealers Annual Gem & Mineral Show, Jefferson Co. Fairgrounds Exhibit Hall, 15200 W. 6th Ave. Service Road, Golden, FREE, call 303-279-5504 or 303-986-3647 for information.	… **Nov. 5-7**
"Secrets of Colorado's Past Climate Change", by Robert Thompson and Laura Strickland, 1:30PM, Lookout Mountain Nature Center, 910 Colorow Rd., Golden, FREE; register at website or 720-497-7600.	… **Nov. 7**
Monthly Meeting, Columbine Mineralogical Society, 6:30PM, Shavano Manor, 625 W. 16th (at J St.), Salida	… **Nov. 11**
Monthly Meeting, Denver Gem and Mineral Guild, 7:30PM, Berthoud Hall, 16th and Maple Sts., Rm. 109, CSM (Golden)	… **Nov. 12**
31st Annual New Mexico Mineral Symposium and 2nd Annual Mining Artifact Collectors Association Symposium, Macey Center, New Mexico Institute of Mining and Technology, Socorro. For information, call 575-835-5302 or visit the website.	… **Nov. 13-14**
Café Scientifique, "Long Hot Nights in the Eocene Arctic: What They Tell Us about Global Warming", by Jaelyn J. Eberle, 6:30PM, Wynkoop Brewery, 1634 18th St., Denver.	… **Nov. 16**
	… **Nov. 18**

Monthly Meeting, Pueblo Rockhounds, 7:30PM, Westminster Presbyterian Church, 10 University Circle, Pueblo. … **Nov. 18**

Monthly Meeting, Colorado Springs Mineralogical Society, 7:30PM, Colorado Springs Senior Center, 1514 N. Hancock, C.S

Colorado Science Conference (a professional development conference for science teachers), Denver Merchandise Mart. Go to http://coloradocast.org/professionaldevelopment.php?page=overview for information. … **Nov. 18-19**

Silent (and verbal) Auction, Littleton Gem & Mineral Club, Columbine Hills Church, 9700 Old Coal Mine Ave. (SE corner S. Kipling and Old Coal Mine Ave.), Littleton, noon-?; minerals, books, jewelry, etc. … **Nov. 25**

Flatirons Mineral Club Annual Show & Sale, Boulder Co. Fairgrounds Exhibits Bldg., 9595 Nelson Rd. (Nelson and Hover), Longmont (admission charge) … **Dec. 10-12**

Club News

Please *Welcome New Members*:

Tom Boven
Barbara Compton
Ann Lembcke

❄❄At the October 9 Club meeting, **John Rakowski** reported that about 100 people attended **Steve Veatch's** presentation on the Alma Project at the Denver Mineral Show. **Dan Alfrey** said that, at a presentation in Alma, several hundred dollars were raised for the Alma Foundation. **John Rakowski** reported that only 4 clubs were represented at the Colorado Federation of Mineralogical Society's meeting at the Denver show. It isn't clear whether the Federation will survive. John also referred members to an article in the "Ute Country News" about **Steve Veatch's** and others study of fossil pollen associated with the Fossil Beds mammoth remains. **Loren Lowe** noted that skarn localities near Round Mt. Campground aren't accessible anymore. Those and bone localities on public land in South Park are now signed and gated.

Members elected the following officers for 2011: President: **John Rakowski**; Vice President: **Dan Alfrey**; Treasurer: **Wayne Johnston**.
The Secretary position has not been filled—we need a volunteer! Contact John if you're interested in serving. **Richard Parsons** then gave a presentation titled "The Dazzling World of Minerals Seen Through the Microscope". Richard noted that the Rocky Mountain Micro-Mineral Association meets at the CSM Museum on the second Sunday of each month, from 2-4PM. His talk covered the "whys" of micro-mineral collecting, types of micromounts, viewers and lighting, costs of getting started, and how to clean and test micro-minerals. He also recommended several books and websites for the beginner.

❄❄We are saddened to report the death of long-term member **Bill Piety**. **John Rakowski** sent the following:
Bill Piety, member of the Lake George Gem & Mineral Club as well as the Denver Gem and Mineral Guild, passed away last night (Oct. 28) after a six-month battle with liver cancer. Bill and I were longtime digging partners and sometimes business partners. Bill was in his early 60's and had a very healthy lifestyle and medical history until the unexpected liver cancer. Bill was an avid mineral collector with much patience with new collectors and was a professional geologist.
As you know, the DGMG's Piety Claim at Wigwam next to our Patience Claim is named after Bill, as he donated money to the DGMG to maintain that claim. That site was one that Bill and I often collected at with good success and lots of fun. Bill will be missed.

❄❄I'm happy to report that our faithful Secretary, **Marge Breth**, is recovering from a broken pelvis. Marge injured herself in a fall in July.

❄❄**John Rakowski** recently accepted a very generous donation of lapidary equipment to the Club from **James Fitzgerald**, of Florissant. The equipment includes: (1) a HiTech 6-inch trim saw; (2) a HiTech lapidary machine with 6-inch diamond discs; (3) a Lortone Model 33B tumbler with 2 quart-size containers and grits; and (4) various books. Total value is estimated at more than $1100. John says, "Overall this is a thrilling and very generous donation to the Lake George Gem and Mineral Club and will be able to serve as the cornerstone of a new Lapidary Workshop and Lapidary Training Room for our club. Now we need to find a space. I am hoping that the people taking over the Lake George Charter School building in mid 2012 will allow us to have some space there. The items that we presently have from this donation could be used in a space of about 8 feet x 10 feet, which would need to be heated, and ideally would have two 15-amp electric circuits. I would anticipate that we will receive other equipment and book donations when we actually have space designated for our shop."

❄❄John also received the following offer to trade minerals and fossils with a New Zealand collector:

Dear Sir / Madam,

I am endeavouring to start a fossil collection for my 11 year old son and therefore hoping to find people that might be willing to trade for material from New Zealand. I have numerous minerals that may be of interest including Quartz after calcite - Greenstone (Jade) – Carnelian (botryoidal and plain) - Obsidian - Agates (Agate Creek Australia and some from India) - Kauri gum polished (copal) - polished Paua shell -
Petrified wood - Shell fossils - tektites (China) - and also some Boulder opal, polished opal and minerals from Australia. If you have any members that may be interested could you please pass on my message. My son's interests are Fish - Ammonites - Dinosaur teeth - Megalodon teeth - Crabs - insects in amber and Trilobites but I'm sure any fossils would be of interest. He also likes fluorescent minerals. To show that this is not a scam I am willing to send a sample if you forward a mailing address. If nobody is interested then the club may keep the samples.
I thank you for your time and hope to hear from you soon.
Yours sincerely
Gary O'Neill. E-mail Gary.ONeill@ap.o-i.com

❄❄**Bob Carnein** is still looking for 2 more good members or friends who would like to take his course in basic crystallography. Cost is $100 for 10 1-hour sessions—a real bargain, when you compare that with restaurant meals, massages, or used comic books. Bob promised the three people who signed up that he'd make a final decision on offering the course by Nov. 7. If you're interested, contact Bob at 719-687-2739 or ccarnein@gmail.com.

❄❄The recent Friends of Mineralogy-Colorado Chapter Newsletter contained an appeal for help with a new "Miners' Oral-History Project. If you are interested in helping with this, check out their website.

❄❄ New member **Ann Lembcke** sent the following item:

Minnesota *Rockie* in the Colorado Mountains.

As a *Rockie* for most of my life and member the Cuyuna Rock Club in Crosby, MN., I know how hard it is to keep the interest in rocks and gems going in our super-charged age of electronics. We are constantly battling against the interests of the next generation that appear before their eyes right in the comfort of there own homes. Why should they go out in the elements and search for the 'gems of Mother Earth' and find it exciting?

In the past, I have traveled west visiting friends and relatives with no thoughts of connecting with other *Rock People*. With the continued struggles in fighting for the right to

hunt for rocks, minerals and gems, not to mention teaching the next generation, I decided to make contact with rock clubs in the area around Woodland, CO, where my friend lived, and see if I could go out 'local' rock hunting with someone. To teach the next generation, I needed to widen my knowledge of other parts of the greater US within its borders.
Little did I know how hard this task would be in light of our electronic world? Armed with E-addresses from a web site I found, I drafted an introductory letter and began sending it out to rock shops, rock clubs and members of rock related organizations between Colorado Springs and Cañon City.

Four week's of frustration followed with nothing. I met dead-end E-addresses and no-longer-in-service telephone numbers daily. Our club editor researched more E-addresses for me again, and she sent out some feelers into the electronic highway. Neither of us got replies-just plenty of messages stating the mail couldn't be delivered over the plains to the mountains.

The last day before I was to leave MN to start the journey west to CO, I scanned another new lapidary magazine and found a different E-address for a Ron in CO. Thus, die-hard that I am, I cut and pasted the same letter I had sent previously. It was a *cloudy day* in MN and I decided I might just have to sprinkle *Fairy Rock Dust** over this message, for it was my last attempt before I left. [**RFD is sold in Canada*]

To my amazement, I got a reply from Ron and he sent the word out to *rock* people he knew. Twenty E-mails later, a couple of phone calls to me, and plenty of Ya Hoo's for the *Fairy Rock Dust* working, I was all set for two days of *Rockie connections in CO.* My hammer, chisel, goggles, and compass were all packed and ready to go. Wanting to send one last E-mail off to CO at 11:00 p.m., I hit the button and found the same message as in the previous 4 weeks: it could not be delivered. Looking out the window I noticed that the *sky was clear* and the stars were out.

My time spent in CO looking for smoky quartz and amazonite near Lake George with two members of the Colorado Springs club was very educating. They always say if you wish for something long enough you might get it. I had petitioned a wish for learning more about micromounting. Wow, in joining the Lake George Club, I had my wish fulfilled. The presentation by Richard was totally educating and I am sure many of my new fellow club members felt the same way after seeing the wonderful pictures.

As I worked the holes side by side with my new *Rockie* members at the club claim, I felt part of a group of people that believe in the mission of keeping rock clubs going and welcoming new 'flat landers' like myself into their *rockie circle.* Even though I found no fluorite or smoky quartz at the claim, I found 'gems' that are priceless: people who love to dig, pan, clean, mount and show off there rock / gem collections to others. Thanks for the warm welcome I received from Colorado *Rockies* in the Lake George Club.
Ann Lembcke, Sartell, MN.
[Rock Fairy Dust as its termed is Red Mica Chips from near the amethyst mines in Thunder Bay, Canada]

❄❄**Dick Lackmond** reports that he recently visited the Picketwire Canyon dinosaur-track site, in southwest Colorado. This is the site of the largest dinosaur tracks in the world, ranging from 24 inches to 2 inches across. It's estimated that there are at least 1500 tracks at this site, whose importance was first recognized in 1952 by a grammar-school class. He sent some photos from that trip (all photos by Dick):

First thing we found was this wall with 1500-year-old Indian pictographs.

Then we crossed the Purgatory River.

We were walking on dinosaur footprints.

Some of them were size XXXXXL!

They were all over the place!

❄❄For the jewelry makers among you, here's a new feature, provided by Brad Smith, who has 15 years of jewelry experience and teaches classes in the adult schools of Los Angeles and Santa Monica, CA. Brad has offered to provide monthly tips similar to these; let me know if you're interested.

STIFFENING EARRING POSTS

Soldering an earring post will always soften the wire a bit. Easiest way to harden it is to grip the end of the post with your flat-jaw pliers and twist it a couple half turns. This work-hardens the wire and at the same time tests your soldered joint.

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USE A SPRAY BOTTLE

Those little spray bottles you can find at the drug store are great for firescale preventers and debubbling solutions. A quick firescale preventer is liquid flux, and a homemade debubbling solution is a little Dawn liquid in rubbing alcohol.

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BROKEN DRILLS

Have you ever broken a drill bit off in a hole? Sometimes you can grab it with pliers, but other times the steel piece is below the surface in the hole. If this happens, you can usually dissolve the steel in a solution of alum.

Alum is typically available from a food store or a drug store. Use about a teaspoon per cup of warm water. Submerge your piece so that the partially drilled hole is facing up so that bubbles can float free.

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More **BenchTips by Brad Smith** are at: groups.yahoo.com/group/BenchTips/
or: facebook.com/BenchTips

Pebble Pups Corner

Pebble Pups will meet at the usual time: 6PM, November 8, at the Lake George Community Center. If you know interested kids or home schoolers, please urge them to attend! Adults are welcome to sit in.

Many thanks to new member **Ann Lembcke**, who donated specimens of staurolite from the Blanchard Dam site on the Mississippi River, in Minnesota. She also gave us specimens of Lake Superior agate from near Grand Marais, MN.

Notes from the Editor

Bob Carnein, Editor
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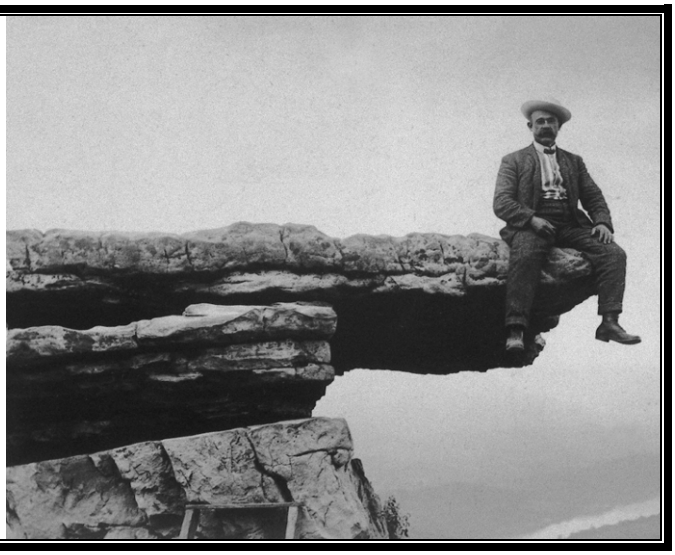
719-687-2739



I have two great articles "in the pipeline"—one by Steve Veatch on the Fossil Beds pollen study and a second by Colorado Springs and Lake George Pebble Pups about minerals used by the ancient Egyptians. Once we get the formatting straight, those will appear in the Newsletter. In the meantime, the following article is one of an occasional series that deals with the minerals of the Mohs hardness scale.

FABULOUS FLUORITE

by Bob Carnein

Most mineral collectors like fluorite for several reasons:

- Specimens are often brightly colored, usually in shades of purple, yellow, or green. Fluorite is one of those minerals sometimes known to collectors as "eye candy".
- Large, well formed fluorite crystals are relatively common.
- Fluorite is so widespread that one can collect it in almost every state and rock type. (Some nice specimens come from the Crystal Peak area and Cripple Creek.)
- Fine specimens from world-famous localities can often be purchased at relatively modest prices.

Properties Fluorite (CaF_2) is number 4 on the Mohs hardness scale, falling between calcite and apatite. That makes fine crystals susceptible to chipping and abrasion. It has a vitreous (glassy) luster and perfect octahedral (4-direction) cleavage, which is obvious on specimens that have been carefully cleaved with a chisel (Figure 1). This is the same cleavage shown by another popular and colorful mineral--diamond.

Figure 1. Two fluorite cleavage octahedrons, Cave In Rock, IL (Carnein collection & photos).

Although colorless when pure CaF_2, fluorite crystals easily incorporate other ions, and even liquids, such as petroleum, during growth. This results in a wide range of colors. The purple color commonly seen in fluorite results from the presence of a *color center*. In fluorite, color centers occur when high energy radiation knocks a fluorine ion out of the crystal lattice. This produces a space in the network of positive Ca ions and negative F ions. If an electron is available, it fills the "gap", and a purple color results.

It seems appropriate that some (but by no means all) fluorite is fluorescent. The response to UV radiation varies from neon blue to green to pink or red, and sometimes yellow, depending on impurities (Figure 2, 3). Some fluorite fluoresces in sunlight, making the color more intense than that of the same specimen seen in ordinary incandescent or fluorescent light (Figure 4). This response is especially famous among specimens from some UK mines. On the other hand, the UV fluorescence may permanently fade if the specimen is exposed to room light or sunlight. For this reason, fluorite specimens from Franklin, NJ are commonly stored in aluminum foil or other light-proof containers. The fluorescence may also fade with repeated exposure to UV (as I discovered with fluorite from Duffield, El Paso County, which fluoresces a dull cherry red that fades before one's eyes). Some fluorite is thermoluminescent—it glows with a dim,

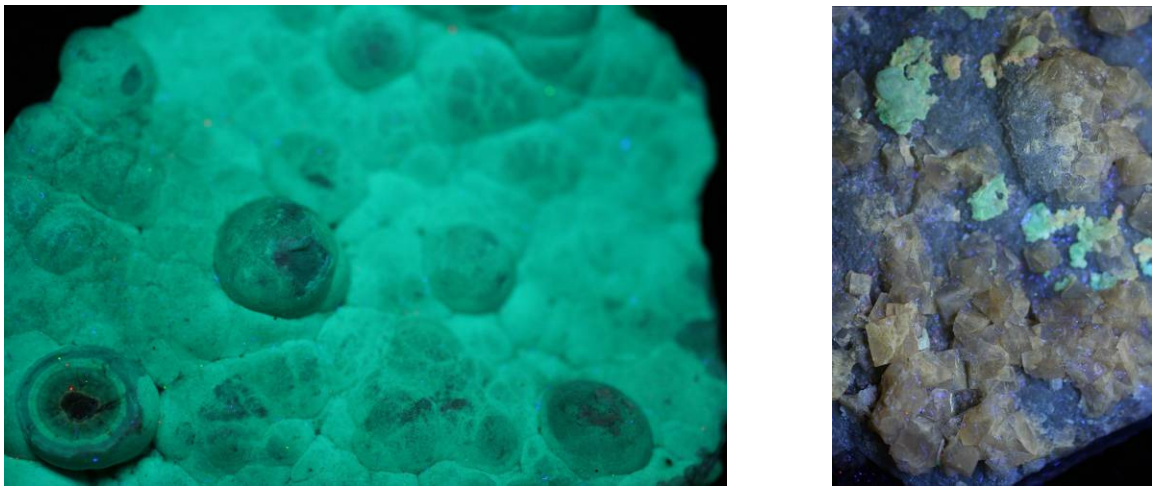


Figure 2. Fluorescent fluorite from the Canon City (left) and Cripple Creek (right) areas (Carnein collection & photos). (The tan crystals on the Cripple Creek specimen are fluorite.)

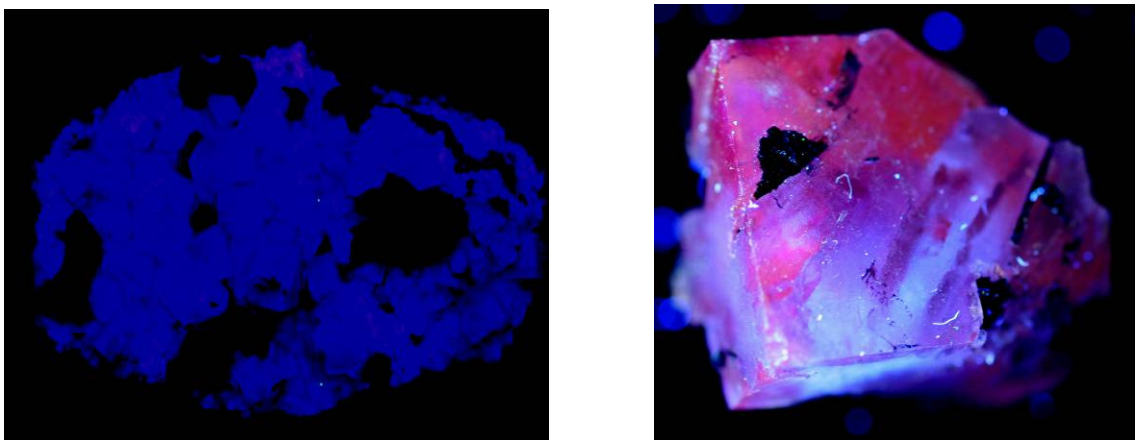


Figure 3. Left: Fluorescent fluorite crystals, Frazers Hush, Weardale, UK; right: rare pink Fluorescent fluorite from Mapimi, Durango, Mexico (Carnein collection & photos).

Figure 4. Same as Fig. 3 left, photographed in fluorescent light (left) and sunlight (right) (Carnein collection & photos).

apple green light if heated. This response tends to fade with repeated heating.

Fluorite occurs in the isometric (cubic) crystal system. Fluorite crystals are most commonly simple cubes (Figure 5, left). However, octahedral crystals (Figure 5, right) are abundant at some localities, and cubic crystals are often modified (combined) with, or regularly overgrown

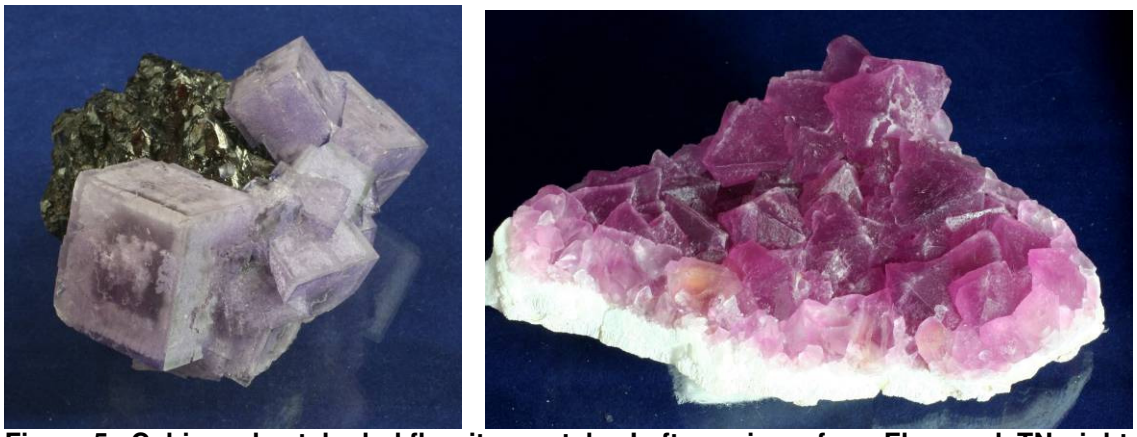


Figure 5. Cubic and octahedral fluorite crystals. Left specimen from Elmwood, TN; right specimen from Mina Navidad, Durango, Mexico (Carnein collection and photos).

by other, isometric forms (Figures 6, 7). Twinned crystals are abundant at some localities, especially in the UK (Figure 8).

Figure 6. Combined cube and dodecahedron in Fluorite crystal from Sweet Home mine, Alma, CO (Carnein specimen & photo).

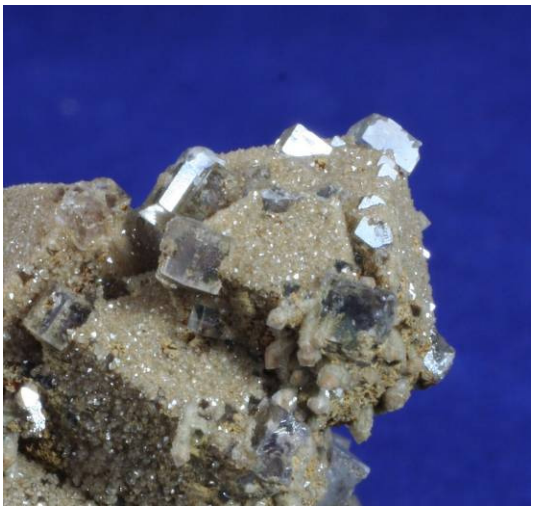


Figure 7. Octahedral fluorite (tan) overgrown by cubic fluorite crystals, Dal'Negorsk, Russia (Carnein specimen & photo).

Although most collectors are familiar with cubic crystals, fluorite also occurs in other interesting habits. Many Colorado collections contain specimens from the Four Mile Creek district, in Fremont Co., that form botryoidal ("grape like") vein fillings (Figure 9).
Besides their unusual habit, these specimens also fluoresce bright green (Figure 2). (Note: many specimens from this locality have been oiled to bring out the purple color.) Similar material (though not as fluorescent) comes from China. In the extensive Indian basalt flows that are famous for other minerals, botryoidal fluorite occurs that resembles tan, yellow, or rust-red egg yolks (Figure 10). (Beware that some red Indian fluorites are dyed.)

Figure 8. Twinned fluorite from the Eastgate quarry, Weardale, Durham, UK (Carnein specimen & photo).

Figure 9. Botryoidal fluorite from Four Mile Creek, Fremont Co., CO (Carnein specimen & photo). (same as Figure 2, left)

Another interesting effect occurs where cubic fluorite crystals have been "eaten" or etched by the hydrothermal fluids that were circulating in the spaces after crystallization was complete. The famous zinc deposits at Elmwood, TN (now closed) often produced spike-like "floaters" that are the remnants of huge crystals that were attacked by this etching process (Figure 11).

Figure 10. Fluorite on quartz from Nashik mine, Maharashtra, India (Carnein collection & photo).

Figure 11. Etched fluorite crystal, Elmwood, TN (Carnein collection and photo).

Such effects are also more rarely seen in Illinois fluorites (Figure 12).

Fluorite crystals also commonly show color variations reflecting changes in the composition of the fluids from which they formed. Such "phantoms" may be subtle (e.g. purple to blue) or very obvious (Figure 13). For example, green crystals may have purple cores, or vice versa. Specimens are sometimes polished to bring out these variations, and lapidaries may even carve bowls or ornamental sculptures that exploit the color variations. China, a major fluorite producer, is often the source of such carvings seen at mineral shows.

Uses Fluorite is an important industrial mineral. It is essential as a flux in steel making. Several pounds of fluorite are added to the mix in a steel furnace to lower the melting point and to make the melt more fluid. This helps to transfer impurities to the slag that forms on top of

Figure 12. Partially etched cubic fluorite crystals, Minerva #1 mine, Cave In Rock, IL (Carnein collection & photo).

Figure 13. "Phantom" fluorite crystal, Sweet Home mine, Alma, CO (Carnein collection & photo).

the molten iron. If the fluorite happens to occur in limestone (which is needed to form the slag), then the deposit is even more valuable than if it occurred by itself. Fluorite is also an important source of fluorine-containing compounds used in the chemical and pharmaceutical industries (e.g. Prozac and Teflon). Hydrofluoric acid (HF) is used in etching and cleaning glass and metals and in petroleum refining. Even toothpaste contains fluorides derived from fluorite.

Although the US was once self-sufficient in fluorite production, we now import most of our fluorite from China and Mexico. Important US deposits that are now closed include those of the southern Illinois/northern Kentucky fluorite district, around Rosiclare and Cave In Rock, IL and Paducah, KY. In many cases, we import fluorine compounds, rather than producing them ourselves. Because of fluorspar's strategic importance, this makes the US vulnerable to supply interruptions.

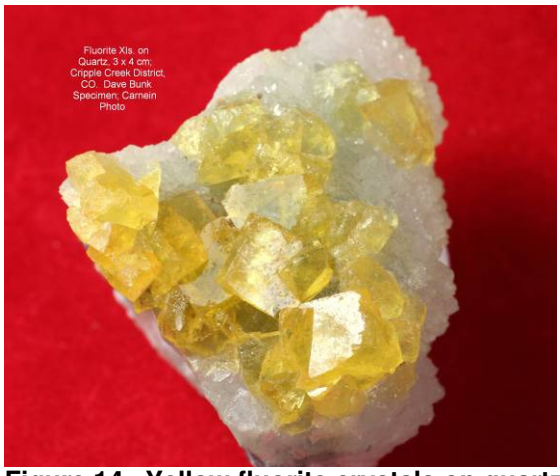


Figure 14. Yellow fluorite crystals on quartz, Cripple Creek district, CO (Dave Bunk collection, Carnein photo)

Figure 15. Fluorite crystals on microcline feldspar, Crystal Creek, El Paso Co., CO (Carnein collection & photo)

The next time you visit a museum or mineral show, keep your eyes open for other colors and habits of fluorite. Like calcite and some other common minerals, fluorite is a "chameleon", with more varieties than most collectors realize. It isn't always purple, but the cleavage and crystal habit commonly help with identification.

Lake George Gem and Mineral Club
Box 171
Lake George, Colorado 80827

2010 MEMBERSHIP APPLICATION

Name(s) _____

Address _____City _____State __ Zip _____

Telephone ( ) _____-_____ E-mail _____

Names and ages of dependent members: _____
_____

Annual membership - dues Jan. 1 through Dec. 31 are as follows:

- Individual (18 and over) …….. $15.00
- Family (Parents plus dependents under age 18) ……. $25.00

Annual dues are due on or before March 31. Members with unpaid dues will be dropped from the roster after this date. **Anyone joining after August 30 shall pay one half the annual dues.**

I hereby agree to abide by the constitution and by-laws of this club.

Signed _____ Date: ____/____/____

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

My interest areas include:
Minerals __ Fossils__ Lapidary __ Micromounts __
Other _____

I would be willing to demonstrate any of the above for a club program or educational activity? If yes, which: _____

Please indicate which of the following activities you might be willing to help with:

Writing _____ Editor _____ Mailing _____ Local shows _____

Club Officer _____ Programs _____ Field trips _____ Refreshments _____

Questions about the club or club activities? Contact John Rakowski (719) 748-3861

Lake George Gem and Mineral Club
P.O. 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 an opportunity to learn about earth sciences, 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 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 10:00 AM. From April through September, we meet at 9:00 AM, 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 2010 are:

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