

# Lake George Gem & Mineral Club

## Club News

June, 2020



### CANCELLATIONS!

The coronavirus pandemic has resulted in statewide emergency regulations and public health advisories against group gatherings. This has resulted in the cancellation of all Lake George Gem & Mineral Club activities until further notice. Cancellations include all LGGM Club meetings, programs, and field trips, as well as classes such as Rockhounding 101, Mineral Identification, and Basic Wire Wrapping. We will let you know when these events can be rescheduled.

We do not yet know whether the **Lake George Gem & Mineral Show** will be held as scheduled ( August 14-16), or whether we may need to cancel it. Park County is scheduled within the next two weeks to make decisions about upcoming events. Please check future newsletters or visit the club website at [www.lggmclub.org](http://www.lggmclub.org) or the club facebook page for further information.

**FIELD TRIPS:** The following two field trips have been tentatively scheduled. Please check the field trip sign-up page on the lggmclub.org website closer to the trip dates to see if these field trips are still on as scheduled, and if they are still limited to 10 participants.

#### TENTATIVE SCHEDULE OF LGGM CLUB PROGRAMS, FIELD TRIPS & EVENTS

Date(s)	What	Where	Leader(s)
Sat 6/20	Topaz, smoky quartz	Topaz Mtn. Mine-Lake George	To be determined
Sun 7/12	Quartz, fluorite, amazonite, etc	LGGM Club Claim Wigwam Creek	Joint with Mile-hi RAMS
Fri 7/31	Amazonite, smoky quartz	Smoky Hawk-CPMD	To be determined

#### COMING EVENTS OUTSIDE THE LGGM CLUB:

**June 18-21** Rocky Mountain Federation of Mineralogical Societies 2020 Annual Conference and Gem and Mineral Show is still being held in Big Piney, Wyoming with appropriate spacing of vendors to reduce the chance of Covid contamination. For more information and conference registration packet, click on the following link:

<https://rmfms.org/uploads/conferences/2020/2020%20RMFMS%20Convention%20Packet%20REV%201.pdf>

**Dick's Rock Shop Liquidation - TEMPORARILY POSTPONED .** After more than 4 decades, Dick's Rock Shop in Fountain is closing and liquidating all of their inventory of rough, tumbled and cut stones as well as mineral specimens, fossils geodes, etc. Consult their web site at <https://dicksrockshop.com/> for more information, or email Diana Wing at [diwing@dicksrockshop.com](mailto:diwing@dicksrockshop.com) to schedule an appointment.

**The by Dick's Rock Shop free outdoor rock giveaway has also been temporarily postponed. We will send out an announcement about rescheduling of the in-store liquidation and free giveaway.**

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Our LGGM Club class on **Basic Wire Wrapping** has been cancelled, but if you are interested in wire wrapping some of your stones while you are at home during the coronavirus pandemic, you might want to visit <https://www.perfectlytwistedjewelry.com/classes.html> and to check out the online video wire wrapping classes that Susan Gardner offers by internet. LGGM Club members can contact Jerrolynn Kawamoto at [jerrolynn@wildblue.net](mailto:jerrolynn@wildblue.net) or by calling 719-748-8152 to receive Susan's gem club discount code for \$10 off of the price of the \$30 class. Or go to <https://www.perfectlytwistedjewelry.com/free-tutorials.html> to watch her 101 Basic Cabochon Wire Wrapped Pendant YouTube video tutorial.

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**Nearly all events that are held in college facilities or local community facilities have been cancelled until further notice. Others have been postponed and may be postponed again.**

Fri.-Sat.-Sun., June 12-14, Pikes Peak Gem & Mineral Show -- **Cancelled.**

Thurs.-Sun., July 23-26, Fairplay Contin-Tail Gem, Mineral, and Jewelry Show, Fairplay River Park. -- **Cancelled.**

**We have not yet seen any cancellation notices about the following gem and mineral shows:**

**Thurs.-Sun., Aug. 6-9, Buena Vista Contin-Tail** outdoor gem and mineral show, Buena Vista Rodeo Grounds. Colorado's longtime famous and best attended tent & tailgate rock swap and show.

**Fri.-Sun., Aug. 14-16, Lake George Gem and Mineral Show**, sponsored by the Lake George Gem and Mineral Club. Also taking place nearby "down the road" is the **Woodland Park Rock, Gem and Jewelry Show**, Aug. 13-16.

**Fri.-Sun., Sept. 18-20, 53<sup>rd</sup> Annual Denver Gem and Mineral Show**, at the Denver Mart. 2020 theme is "Fabulous Fluorite".

**OTHER COMING EVENTS OUTSIDE THE LGGM CLUB:** (Nearby gem, mineral, fossil and geology events that you may enjoy.)

- **Cañon City Geology Club**, cancelled until further notice. <https://www.canoncitygeologyclub.com/>
- **Columbine Gem & Mineral Society**, meetings TBD. <https://rockaholics.org/about/>
- **Colorado Springs Mineralogical Society** meetings cancelled until further notice
- **Pueblo Rockhounds**, meetings cancelled until further notice.

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***For more lecture series during the year see:***

**Colorado Café Scientifique in Denver**, monthly lectures on science topics

see <https://coloradocafesci.org/>

**CU Geological Science Colloquium** (Cancelled until further notice - Wednesdays, 4 p.m.)

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

**CSU Dept. of Geoscience Seminars** (Cancelled until further notice - Fridays, 4 p.m.),

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

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

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

**Denver Museum of Nature and Science, Earth Science Colloquium series**, (Cancelled until further notice - 3:00-4:00 p.m.), VIP Room unless noted, meeting dates and day of the week vary. Museum admission is not required; see <http://www.dmns.org/science/research/earth-sciences/>

**Denver Region Exploration Geologists Society (DREGS)**; (Cancelled until further notice - usually 1<sup>st</sup> Monday, 7 p.m., Room 241 Bethoud Hall, CSM campus, Golden) <http://www.dregs.org/index.html>

**Florissant Scientific Society (FSS)**; (Cancelled until further notice - 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.

**Friends of Mineralogy, Colorado Chapter**, (Cancelled until further notice -usually meets on the 2<sup>nd</sup> Thursday of odd-numbered months, 7:30 p.m., Berthoud Hall Room 108, CSM campus, Golden; see <https://friendsofmineralogycolorado.org/>).

**Golden Beer Talks** (April talk cancelled) 2<sup>nd</sup> Tuesday, 6-8 p.m.), at the Buffalo Rose, 1119 Washington Ave., Golden. Doors open at 6; Talk begins at 6:35; Intermission – 7-7:15; Q&A/clean up 7:15-8. “Golden’s grassroots version of TED talks, Expand your mind with a beer in your hand”, <http://goldenbeertalks.org/>

**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. 44<sup>th</sup> 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, 3<sup>rd</sup> Tuesday, 5:30 p.m.), <http://rmmaps.org/>

**Western Interior Paleontological Society (WIPS)**; (April meeting unknown) WIPS will meet on the 1<sup>st</sup> Monday of the month, 7 p.m., in Petroleum Hall, Green Center, 924 16<sup>th</sup> St., Colorado School of Mines campus, Golden See <http://westernpaleo.org/> .

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## **LGGM Club News:**

**Membership Applications** for 2020 closed as of March 31, 2020. Although non-members are welcome to attend the educational programs at the monthly meetings, you must be a member to participate in any field trips with the club.

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**Award-winning articles.** Linda Jaeger, the Publications Chair of the Rocky Mountain Federation of Mineral Societies (RMFMS) has informed us that three of the articles published recently in the LGGM Club Newsletter are in the top five articles submitted this year to the RMFMS newsletter publications contest. In June, we will find out the final placement of these articles by **Bob Carnein Paul Combs** and **Steve Veatch** in the contest.

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**Dick’s Rock Shop free giveaway to rock and gem club members.** On Tuesday, May 26<sup>th</sup> members of several Colorado rock and gem clubs enjoyed a day of collecting rocks from the outdoor yard of the store in Fountain. For LGGM Club members, it was like the first field trip of the season. Participants wore masks and did their best to maintain physical distance from one another. The outdoor rocks were dusty, so it was often difficult to identify the rock type and quality -- just like field collecting. Can you guess who these club members are? When Dick’s Rock Shop resumes the liquidation sale and free outdoor rock giveaway, you can shop in the store by appointment only (see contact info in the Coming Events section above.)

# Dick's ROCK SHOP & BEADS





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**Member Reports on Private Rockhounding Activities.** With the cancellation of rockhounding field trips for our club, we would love to receive reports and photos from club members who have done rockhounding on public lands that allow rock collecting, or on private lands or mines which allow fee digs or rockhounding with permission. Please tell us where you went, what you found, and provide contact information for obtaining permission (if required). Your information and photos may be included in future newsletters.

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### **Request for Specimens:**

Our Annual Show Committee would like to request that all members who have small rock and mineral samples that they are willing to share send us your contact information so that we can have Carol Kinate contact you. These specimens will be used for our kids' activities if the show occurs as scheduled.

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The latest installment of **“Bench Tips”** by **Brad Smith:**  
([www.BradSmithJewelry.com](http://www.BradSmithJewelry.com))

### **QUICK CLOSE-UPS**

Often when trying to get a close-up photo with your iPhone or Android, you end up with a fuzzy, out-of-focus image. Next time try using your loupe over the camera lens. It works quickly and easily.



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## LITTLE THINGS CAN BITE

Most jewelers treat motorized equipment with caution. We've all heard stories about workpieces coming loose in the drill press or about getting long hair or clothing caught in the polishing machine. It stands to reason that a machine with a motor of a half horsepower or so is going to win out over its operator.

I want to talk about the smaller motor powered machines we often use, the ones with little 3 inch diameter motors, such as motors used in flexshafts and micro buffers. They are so small that many of us forget caution when using them. I'm guilty of it myself sometimes, and believe me it can get you in trouble. Here's what happened to people I know:

One friend had a polishing bur bend in the handpiece and then whack the thumb that was holding the workpiece. The swelling was substantial, and it took several weeks to regain normal use. A small underpowered motor? Not so.

Another friend was using one of the small buffing machines -- the kind you can stop when you apply too much pressure to the wheel. No need to worry about such an underpowered beast you say. Wrong. It jumped up and bit the hand that feeds it! The buffer was set on a low table to do a quick polish, and was not mounted or clamped. A buff was installed on the right spindle, there was no buff on the left. My friend was wearing a tight-fitting, long-sleeved sweater. While buffing on the right wheel, the left tapered spindle caught a thread on the friend's left sleeve and started grabbing more and more threads and sleeve.

Rather than pulling the arm into the machine, the light buffer quickly lifted off the table and started climbing up the underside of the friend's arm. There was no way to get a hand of the on/off switch because the unit was spinning wildly and battering my friend like a club wielded by a mad man. Only when someone nearby could grab the power cord and yank it from the wall did the mayhem stop.

So when you're in the shop, please think safety. Don't take even the little motors for granted.

Work Smarter With Brad's "How To" Jewelry Books  
[www.Amazon.com/author/bradfordsmith](http://www.Amazon.com/author/bradfordsmith)

Happy hammering,  
- Brad

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## Notes from the Editors

Bob Carnein  
Co-Editor  
[ccarnein@gmail.com](mailto:ccarnein@gmail.com)  
719-687-2739

Jerrolynn Kawamoto  
Co-Editor  
[jerrolynn@wildblue.net](mailto:jerrolynn@wildblue.net)  
719-748-8152



Finding crystals that are in great condition is one of the most exciting parts of rockhounding. But sometimes the crystals aren't quite the shape you may have expected. This is often the case if the specimen is a crystal twin. The following article by Bob Carnein (previously published in the LGGM Club newsletter) explains more about these unusual crystal forms. – Jerrolynn

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### Twinning in Crystals by Bob Carnein

Anyone who is interested in minerals and crystallography will eventually encounter twinned crystals. My introduction to twinning occurred when, as a 12-year-old, I collected staurolite crystals from the classic garnet/staurolite locality at Roxbury Falls, Connecticut. Younger readers may have seen the beautiful staurolite crosses from New Mexico, for sale at the Contin Tail Show in August, or the Russian staurolites sold at most shows and on the internet.

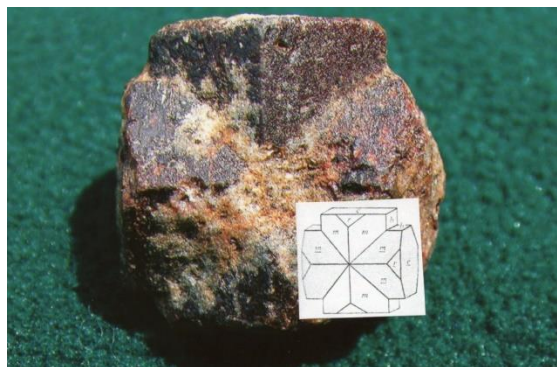
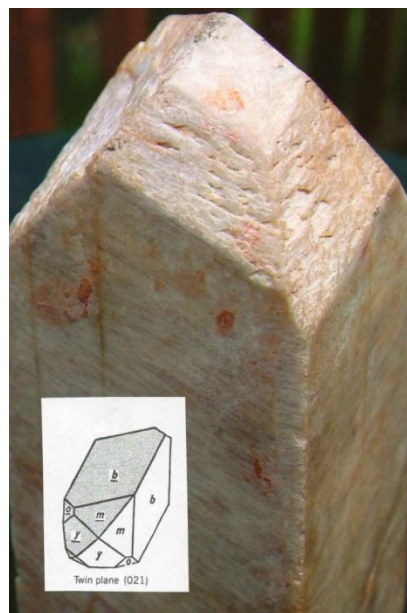


Figure 1. Staurolite, Taos Co., NM

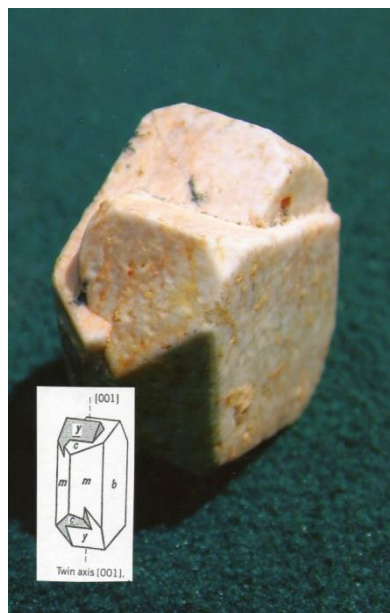


Figure 2. Staurolite, Fannin Co., GA

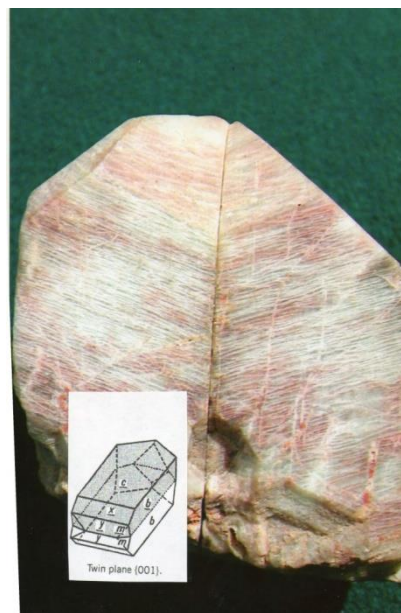
Closer to home, many Colorado localities, including the Crystal Peak area, produce spectacular feldspar twins. Cripple Creek is noted for twinned crystals of the gold-silver telluride, *sylvanite*, and Mt. Antero has rare twins of the beryllium mineral *phenakite*. All of these sell at a premium when available.



**Figure 3. Microcline, Baveno twin, Naegi, Mino, Japan**



**Figure 4. Microcline, Carlsbad twin, Kern Co., CA**



**Figure 5. Microcline, Manebach twin, Crystal Peak, Teller Co., CA**

New collectors often are unaware of pitfalls they need to avoid when they are offered a twinned crystal. Search eBay and other sources and you are likely to find dozens of "twins" that are, at best, products of an over-active imagination, or, at worst, attempts to deceive. Minerals commonly sold as twins include the feldspars, staurolite, and phenakite, as well as aragonite, beryl, chrysoberyl, calcite, cinnabar, garnet, pyrite, quartz, rutile, tourmaline, and others. Although some of these form twins, others do not. So, how does one distinguish a true twin from a fake?

First, let's consider a definition. According to Klein (2002), twinning is "a symmetrical intergrowth of two (or more) crystals of the same substance." Notice that, if 3 or 4 crystals are intergrown, we don't call them "triplets" or "quadruplets". They are still *twinned* crystals. Note, also, that twinning is a special kind of **intergrowth**, and this is where problems commonly arise. Those who attribute magical properties to crystals often seem to think that any two intergrown crystals are twins and so have special "powers". Although I can't comment about crystal magic, I can assure you that, for every kind of twin, there is a **twin law** that governs such things as the angular relations of the individual crystals and how their symmetries relate. Twins most definitely are not random intergrowths. Ultimately, all of this relates deeply and precisely to the arrangements of atoms and ions in the crystal structure.

Two broad categories of twins are **contact** and **penetration** twins. **Contact twins** consist of two or more crystals joined along a plane or planes of contact (called *composition surfaces*). Examples are **Manebach** and **Baveno twins** in microcline (Figures 3 and 5), **Japan twins** in quartz (Figures 6 and 7) and **spinel twins** in spinel, copper, and galena. You can clearly distinguish the composition surfaces in each of these. Interpenetrating crystals characterize **penetration twins**. Here, the composition surfaces are irregular, rather than planar. Examples include Carlsbad twins in microcline feldspar (Figure 4) and the twins shown by staurolite (Figures 1 and 2) and aragonite (Figure 8).



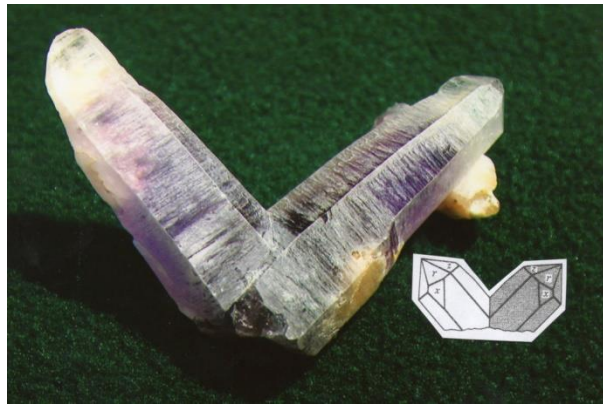


Figure 6. Quartz, Japan twin, Guerrero, Mexico

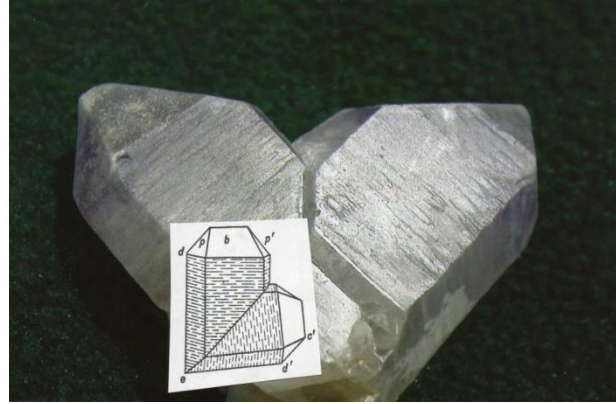


Figure 7. Quartz, Japan twin, Zard Mts., Pakistan

Twins also can be described as **simple**, where only two crystals are involved (Figures 1-7), or **multiple**, if 3 or more crystals are intergrown according to the same law (Figures 8-11). If all of the composition surfaces are parallel, multiple twins are said to be **polysynthetic**. Examples include plagioclase feldspar, in which polysynthetic twinning causes the *striations* that provide a near-certain clue to the mineral's identity (Figure 10), and in some calcite that has been subjected to pressure during or after crystal growth (Figure 11). Multiple twinning along non-parallel composition surfaces is called **cyclic** twinning. Examples include aragonite (Figure 8), rutile and chrysoberyl (Figure 9).

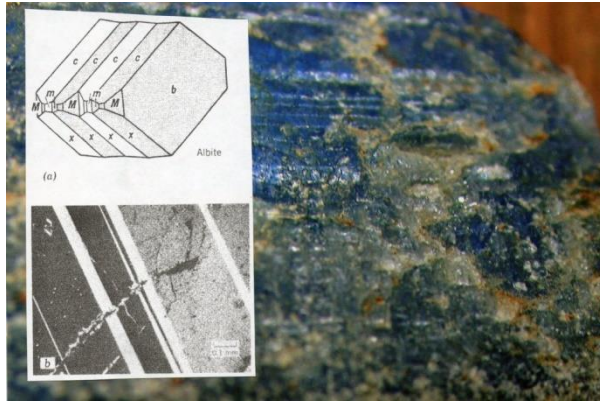
Sometimes twinning is obvious even to the beginner, and, at other times, it is subtle and unlikely to be noticed. Japan-law twins in quartz, the cross-shaped twins in staurolite, and Carlsbad twins in microcline fit into the former category. These are all simple twins, and the two crystals involved are clearly visible. However, most quartz exhibits Dauphiné twinning, in which the only obvious clue is offset striations on the prism faces (the flat surfaces parallel to the crystal's long axis). Only rarely is Dauphiné twinning obvious (Figure 12). Many aragonite crystals have a roughly hexagonal outline because they are cyclic twins made up of three crystals that are intergrown as shown in Figure 8. Many beginners think aragonite is hexagonal, but, in reality, it belongs to the orthorhombic crystal system.



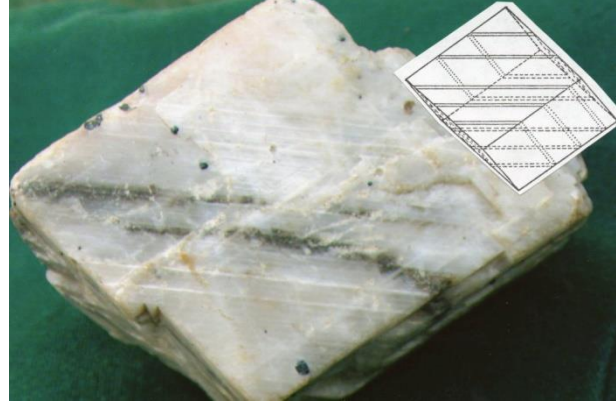
Figure 8. Multiple, cyclic twinning in aragonite, Bastennes, France



Figure 9. Multiple, cyclic twinning in chrysoberyl, Pancas, Espirito, Brazil



**Figure 10. Striations indicating polysynthetic twinning in labradorite, from Labrador**



**Figure 11. Striations in calcite, caused by pressure twinning, from Franklin, NJ**



**Figure 12. Dauphiné twin, smoky quartz, Crystal Peak, Teller Co., CO**

Twinned crystals constitute a rare, fascinating category for the mineral collector. Keep your eyes open, and you might find a beautiful twin hidden in a dealer's stock at a show or in one of the gem "pockets" at Crystal Peak. They're well worth the search.

Note: All photos are of specimens in the writer's collection; line drawings came from Klein (2002).

**Reference:**

Klein, C., 2002, *The 22<sup>nd</sup> Edition of the Manual of Mineral Science (after J.D. Dana)*: New York, John Wiley & Sons, Inc., 641 p.

## Monthly Mineral Quiz



**Last Month's Mineral. Zoisite** [ $\text{Ca}_2\text{Al}_3(\text{SiO}_4)(\text{Si}_2\text{O}_7)\text{O}(\text{OH})$ ], is a sorosilicate (as shown by the  $\text{Si}_2\text{O}_7$  unit) and a common member of the epidote group. Like epidote, it occurs as vertically striated, prismatic crystals, but it's orthorhombic while epidote is monoclinic. Zoisite is brittle, with a perfect cleavage, has a hardness of 6 to 6.5, and has a higher than average S.G. (3.25-3.37). Its composition varies, and this affects the color. Ordinary zoisite is grayish white or green to yellowish or pale brown. The addition of manganese can produce an attractive pink color (*thulite*), and vanadium can yield the rare and expensive variety *tanzanite*, which is produced only in the Merelani Hills, 40 km SE of Arusha, Tanzania (photo to the left). Tanzanite is famous for its pleochroism. Zoisite typically occurs in calcium-rich medium grade metamorphic rocks and in high pressure metamorphic rocks. It was named for an Austrian: Siegmund Zois, Baron von Edelstein.

### This Month's Mineral.



**June's mineral. (Carnein collection and photos)**

The mineral for June is easy to identify, provided you carry your "tool kit" when out collecting. It occurs as irregular submetallic masses or as octahedral, dodecahedral, or, rarely, cubic crystals in igneous and metamorphic rocks. It also accumulates in sediments, due to its moderately high hardness of about 6 and S.G. of about 5.2. In Colorado, it occurs at many localities; in fact, you have probably collected it if you have attended Lake George Club field trips. What is it?



**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 September, 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). New memberships and renewals are only accepted Jan 1 through March 31 each year.

### **Our Officers for 2020 are:**

**Richard Kawamoto**, President  
7584 Cedar Mountain Rd.  
Divide, CO 80814  
719-748-8152  
[kawahome@wildblue.net](mailto:kawahome@wildblue.net)

**Lorrie Hutchinson**, Secretary  
10915 Grassland Rd.  
Colorado Springs, CO 80925  
719-330-2795  
[4lohutch@gmail.com](mailto:4lohutch@gmail.com)

**C.R. (Bob) Carnein**  
Newsletter Co-Editor  
507 Donzi Trail  
Florissant, CO 80816  
719-687-2739  
[ccarnein@gmail.com](mailto:ccarnein@gmail.com)

**John Rakowski**, Vice President  
PO Box 608  
Florissant, CO 80816  
719-748-3861  
[rakgeologist@yahoo.com](mailto:rakgeologist@yahoo.com)

**Cathy McLaughlin**, Treasurer  
11595 Owls Nest Rd.  
Guffey, CO 80820  
702-232-3352  
[cathy\\_mclaughlin@hotmail.com](mailto:cathy_mclaughlin@hotmail.com)

**Jerrolynn Kawamoto**  
Newsletter Co-Editor  
7584 Cedar Mountain Rd.  
Divide, CO 80814  
719-748-8152  
[jerrolynn@wildblue.net](mailto:jerrolynn@wildblue.net)