

Lake George Gem & Mineral Club

Club News

March, 2021



LGGM Club Memberships

March 31, 2021 is the deadline for submission of applications for new memberships.

Both members and non-members are welcome to attend the presentations at our monthly club meetings when the meetings resume, but only members may attend club field trips. To join the LGGM Club, go online to <https://www.lggmclub.org/> and on the left hand column, click on "Be a Member".

For 2020 Members: due to the cancellation of so many club activities during the Covid-19 pandemic, LGGM Club memberships from 2020 will be rolled over to 2021 at no cost to the member. Please keep your 2020 membership cards for use in 2021. If you would prefer to have a refund of your 2020 membership fee, please contact our treasurer

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LGGM Club Activities:

The coronavirus pandemic has resulted in statewide emergency regulations and public health advisories against group gatherings. All **LGGM Club meetings**, and **programs**, as well as **classes** such as Rockhounding 101, Mineral Identification, and Basic Wire Wrapping were cancelled in 2020. We anticipate the relaxation of Covid-related restrictions during the coming months. We will let you know when these events are scheduled to resume.

Field Trips:

Our field trip coordinators are working on the schedule for a wide variety of LGGM Club field trips and several joint field trips with other rock and gem clubs. To participate in our field trips, you must be a member of the LGGM Club (or of the other club involved in a joint field trip).

Confirmed trips that will be scheduled soon include:

- April 17-19 (Saturday - Monday) is a Utah Thomas Range multi-day trip with the Mile Hi RAMS club. We will go to the public site and the Solar Wind Mine pay site. Topaz is commonly found at these sites. Other minerals include bixbyite, pseudobrookite, garnet, amethyst, and red beryl.
- May 1 (Saturday) is a "Learn to Prospect" trip to our club claims with club leaders who are very experienced and familiar with the claim. This is paired with the Rockhounding 101 talk that John likes to give which is scheduled for April 10th meeting. Fluorite, smoky and clear quartz, and amazonite are often found. Citrine and topaz are also found on rare occasions.

The following additional early season trips (through May) are being finalized:

- Baculite Mesa (near Pueblo) - fossils)
- Hartsel Barite (Dave Harvey's claim) – blue barite
- Arroya Gulch (near Canon City) – garnets

We will also have field trips later in the season to the Dorris family's mines:

- Smoky Hawk (near Lake George) – amazonite, smoky quartz, fluorite etc.
- Topaz Mountain Gem Mine – topaz, smoky quartz, occasionally hematite.

Other possible trips being considered include:

- New Mexico multi-day trip with Mile Hi RAMS
- Lapidary equipment demonstration and usage at Florissant Museum
- Calumet Mine -- epidote, quartz
- Houselog Creek -- thunderegg geodes
- Badger Flats -- magnetite and fluorite
- Corral Bluffs (education only, non-collecting)
- Book Cliffs – barite, calcite

More information about these trips will be given in future newsletters and at www.lggmclub.org .

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

- **Cañon City Geology Club** <https://www.canoncitygeologyclub.com/> **March 8, 2021** Meeting location: via Zoom, 6:30 PM- Business Meeting; Program immediately following at approx. 7:00 PM - Program Speaker Ned Sterne will give his Pikes Dome Presentation. A limited number of visitors will be welcomed. Please contact us CCGC at ccgeologyclu@gmail.com for a Zoom invite.
- **Columbine Gem & Mineral** <https://rockaholics.org/> Meetings 2nd Thursday of every month at 6:30pm MT. Locations at Salida or Buena Vista (see flyers or website.)
- **Colorado Springs Mineralogical Society** <http://www.csms1936.com/> .
 - General Assembly – 3rd Thursday 7pm,
 - Fossil Group - 1st Tuesday 7pm
 - Crystal Group and Faceting Group – 4th Thursday, 7pm
- **Pueblo Rockhounds** <http://www.pueblorockhounds.org/> Cancelled until further notice.

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Online Events

- **Rocky Mountain Map Society** For further information see: <http://rmmaps.org/>
- **Western Interior Paleontological Society** (WIPS) See <http://westernpaleo.org/> for more info.
- **Denver Region Exploration Geologists Society** (DREGS) <http://www.dregs.org/index.html>

The following are cancelled until further notice: check the following links for information on lecture series when they resume:

Colorado Café Scientifique in Denver, monthly lectures on science topics see <https://coloradocafesci.org/>
Florissant Scientific Society (FSS); see <http://www.fss-co.org/> for details and schedules.
Friends of Mineralogy, Colorado Chapter <http://friendsofmineralogycolorado.org/events/>
Golden Beer Talks , 2nd Tuesday, 6-8 p.m.), **At Home Editions** <https://goldenbeertalks.org/>

LGGM Club News:

Regional and National Organizations Support Rockhounding. The Lake George Gem & Mineral Club is not alone in its efforts to promote opportunities for our rock and mineral collecting hobby, and for related educational programs. The LGGM Club is a member of the Rocky Mountain Federation of Mineralogical Societies (RMFMS), and sends a part of our annual membership dues to them. RMFMS not only provides our club insurance, but it also represents us as a member of the American Federation of Mineral Societies (AFMS). Along with this newsletter, members of the LGGM Club will receive a report from the RMFMS about scholarships they have provided, and a request from the AFMS about a sale this summer of mineral specimens and other items donated to the AFMS.

Geology Poetry



The Ghost Town *Ironton, Colorado*

By **Steven Wade Veatch**

It still stands,

They left behind a minescape
of broken headframes,
empty shafts, and silent mills.

Windstorms and snows
flattened false-fronted stores
and leveled homes of miners.

Through parting trees
a white house, with shuttered
bay windows, comes into view.
despite everything.

Their dreams disappeared,
and they moved on.
What remains
are their voices
sounding in the breeze
and the story of how
they once lived
so rich.

* * * * *

The Great Sand Dunes

By Steven Wade Veatch

Here the sand
does not belong
to an hourglass
but to a timeless
part of the wind.

Made of many colors
of no shared heritage,
they travel through
the millennia.

Will the sand blow loose,
roll down slopes,
dance in gusts
or reach an angle
of repose?



View of the Great Sand Dunes National Park, Colorado.
Photo date 2020 by S. W. Veatch

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

SHARP KNIVES FOR CUTTING MOLDS

Cutting molds is easier and more precise with a sharp blade. A new Xacto blade is sufficient for cutting RTV molds but is usually not sharp enough for vulcanized rubber. For that it's best to use scalpel blades available from most jewelry supply companies.

The #11 blade is triangle shaped, and the #12 is hawksbill shaped. I find the hawksbill is particularly nice for cutting the registration keys of the mold.




USE YOUR THUMB



When using multiple bits in a Foredom rotary tool, we often have to deal with several different shaft sizes - the usual 3/32 inch burs, the larger 1/8 inch shafts sizes and of course the many different sizes of drills. For some reason I really dislike having to turn the key multiple times to open or close the jaws of the handpiece chuck. So I have two ways to speed up that task. For opening up the jaws, I just remember "four", the number of turns I have to make to open the chuck just enough from the 3/32 bur shaft size to the larger 1/8 bur shaft size.

For closing the jaws around a smaller shaft, there's a neat trick. Hold the new bit in the center of the open jaws of the chuck, put your thumb lightly onto the outer toothed collar of the chuck, and gently start up the Foredom. As the chuck turns, it will naturally tighten the jaws around the bur shaft or the drill bit. Then all you have to do is a final tightening with the key.

Brad is also offering two jewelry making workshops online in March:

<p><i>Online Workshop</i> Castellated Bezels <i>- Make Your Gemstones Pop -</i></p> <p>Saturday March 13th</p> 	<p>Online Workshop – Adding Textures Without a Mill</p> <p>This class will demonstrate 20 different techniques for adding texture - including a variety of simple punches, hammers and rotary tools. Some are applicable to raw sheet material while others can be used on partially fabricated pieces.</p>
<p>March 13th 10am - 4pm EST Class fee \$85 Registration closes March 5th Contact: BradSmithJewelry@gmail.com</p>	<p>March 27th 10am - 4pm EST Class fee \$85 Registration closes March 25th Contact: BradSmithJewelry@gmail.com</p>

Learn New Skills with Brad's "How To Do It" Books
www.Amazon.com/author/bradfordsmith
 Happy hammering,
 - Brad

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Colorado Type Minerals: Genthelvite

By **Bob Carnein**

This article is the sixth entry in an occasional series about minerals first described from Colorado — Colorado type minerals. Past articles have covered carnotite, creedite, elpasolite, rickardite, and zunyite. This month's subject is **genthelvite**, a rare beryllium mineral first found in El Paso County. In 1892, German-American mineralogist Frederick A.L.K.W. Genth obtained fragments of two odd crystals from famous early American mineral dealer George L. English. The locality was described as West Cheyenne canyon, El Paso County, Colorado. Although no information about the mode of occurrence was preserved, the fragments are assumed to have come from the Pikes Peak Granite or one of its late stage intrusives (e.g. the Mount Rosa granite). Type specimens are preserved at Penn State University, the National Museum of Natural History (Smithsonian Institution), and the Natural History Museum, London (Anthony, *et al.*, 1995).



Figure 1. Genthelvite crystal, 2.7 cm across, from Stove Mountain, El Paso Co., CO Photo © Martin Slama, used by permission

Genth originally described the mineral as a zinc-rich variety of helvite (now helvine) $[\text{Mn}_4\text{Be}_3(\text{SiO}_4)_3\text{S}]$ (Anthony, *et al.*, 1995). Much later, Glass, *et al.* (1944) reexamined Genth's material, and because zinc predominated, named it as the new species genthelvite, in Genth's honor. Its chemical formula is $\text{Be}_3\text{Zn}_4(\text{SiO}_4)_3\text{S}$.

Genthelvite is one of three end members in a chemically gradational group of minerals called the *helvine series*. All are beryllium silicates containing sulfur, with additional manganese (helvine), iron (danalite), and/or zinc (genthelvite). The boundaries between members of this series are arbitrary, as shown by Figure 2 (Tarassoff, 2021). Because this is the case, one can only identify the members of the helvine series with certainty by conducting an analysis that goes beyond observing simple physical properties such as hardness, specific gravity or color.

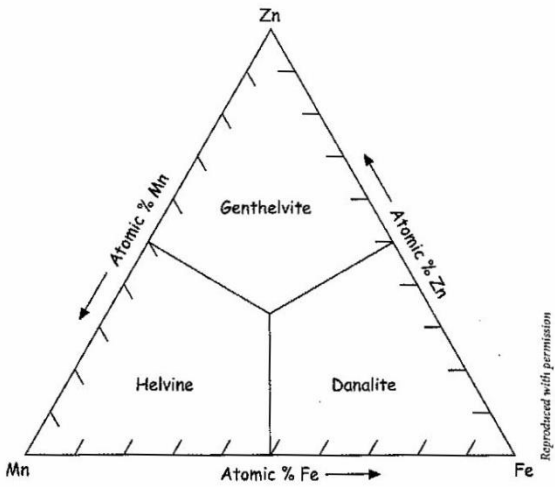


Figure 2. Compositional boundaries of members of the helvine series, based on the atomic percent of zinc, iron, and/or manganese present. (Tarassoff, 2021)

Several properties stand out for members of the helvine series and genthelvite, in particular. First, crystals are common, and those are likely to be simple tetrahedra (four-sided crystals with triangular faces; Figures 3 and 4). These may occur singly or as clusters or aggregates (Figure 5). Depending on the variety, hardness varies from 5.5 to 6.5, with genthelvite towards the high end. Specific gravity ranges from 3.3 to 3.7, increasing with zinc content. Nearly pure genthelvite fluoresces a characteristic Granny-Smith-apple green in shortwave UV. This is especially well shown by examples from the world-class mineral localities of Mont Saint-Hilaire,

Québec and Franklin-Sterling Hill, New Jersey.

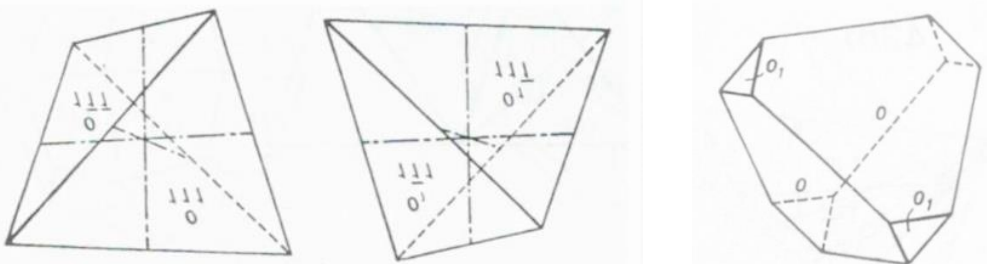


Figure 3. Positive (left) and negative (center) tetrahedra, and combination of the two (right). (Klein, 2002)



Figure 4. Crystal of genthelvite, 1.8 cm across, from Crystal Park, El Paso County, showing both positive and negative tetrahedra, along with other faces. (Private collection; C.E. Raines photo originally published in Eckel, 1997)

The likelihood of finding genthelvite crystals in pegmatites of the Pikes Peak Granite is pretty remote, but keep your eyes open. Only two specimens (one of which is Figure 1, above) are illustrated on Mindat.org (accessed February, 2021), and a fine specimen from a recent find is rumored to have sold in the five-figure range. Even for the well heeled collector, fine crystals of genthelvite were difficult to obtain until about 2010, when specimens from the Huanggang iron-tin deposit of Inner Mongolia, China, began to appear at shows (Figure 5). Unfortunately, analyses show that many of these are actually mostly danalite, with minor helvine and genthelvite (Martin Slama, personal

communication, February, 2021). Other major finds in the 2000s include Zagi Mountain, Pakistan; Mt. Malosa, Malawi; and Sterling Hill, New Jersey. For an interesting summary of important localities, check out the recent article by Tarassoff (2021) in "Rocks & Minerals".



Figure 5. Danalite-genthelvite-helvine crystals from the Huanggang iron-tin deposit, Inner Mongolia, China. (Carnein collection and photo)

To summarize, genthelvite is one of those odd beryllium minerals that collectors love. Along with bertrandite and phenakite, it's a Be mineral that central-Colorado mineral enthusiasts covet. Who knows? You might be lucky enough to dig up a crystal of this rare and elusive species.

References

Anthony, J.W., R.A. Bideaux, K.W. Bladh, and M.C. Nichols, 1995, *Handbook of Mineralogy, Volume II: Silica, Silicates, Part 1*: Tucson, Mineral Data Publishing.

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Genth, F.A., 1892, Contributions to mineralogy, with crystallographic notes by S.I. Penfield: American Journal of Science, 3rd Series, vol. 44, p. 381-389.

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Klein, C., 2002, *The 22nd Edition of the Manual of Mineral Science (after James D. Dana)*: New York, John Wiley & Sons.

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Monthly Mineral Quiz

Last Month's Mineral: Arsenopyrite FeAsS.



February's mineral is one that usually doesn't make itself obvious. This is partly because it may resemble pyrite or marcasite, both of which can be somewhat silvery in color. It contains iron, so it may develop an iridescent coating (like pyrite), which can also lead to confusion. Crystal habit is a giveaway (arsenopyrite is monoclinic; pyrite is isometric), and arsenopyrite is a little softer than pyrite (5 ½-6 vs. 6-6 ½). But, the silvery gray color is the best distinguishing characteristic (but there are several uncommon minerals it resembles). Arsenopyrite is an important constituent of the gangue in many ores, and dissolved arsenic is used as an indicator of gold, copper, and other mineralization. Release of arsenic-laced water from old mine sites is common in Colorado; airborne release from coal-burning powerplants and from copper smelters is strictly regulated, though pressure to relax regulations, especially for burning coal, is always politically charged.

This Month's Mineral (Carnein collection and photos).



Here's one of the commonest minerals in Earth's crust, but one that rarely occurs as well formed crystals. The specimen on the left, above, came from Pakistan, which is the main source of fine crystals, often associated with magnetite and the rare mineral ludwigite (the fiber-like inclusions in this specimen). It's actually a solid-solution series between an iron rich and a magnesium rich end member. The green color darkens with increasing iron content.. In our area, the Pikes Peak batholith contains local concentrations of the iron rich type, while, elsewhere in Colorado, the magnesium rich member predominates. It's hard (H=7) and has perfect cleavage, but it makes a beautiful gemstone when cut carefully. What is this rock-forming mineral?

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



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

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