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### **Message from the President**

Welcome to 2023 and a new year. It is time for resolutions! And, the Club is making some also. We have already made changes to make the facility safer for users. The Board is resolved to making more changes that will keep the Club safe and upgraded. Be aware if you are a frequent user there are some new procedures and rules, especially as it applies to soldering and wax casting.

For my essay this month I highlight a mineral with interesting mineralogical properties and folklore. Read on to learn about staurolite.

### **Board Meeting**

A Board meeting is scheduled for Wednesday, January 11 from 6:00 to 7:50 pm at the Clubhouse.

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### **2022 Colorado Gives Campaign was a success for our Club!**

Thank you to all who generously contributed to our Club this year! We were able to raise over \$1,800, which is impressive for our first year! We will participate again in

2023, possibly with a new building campaign, so stay tuned!

Read on to learn how your donations have made a direct impact at the Club!

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## New Soldering Equipment and Safety Upgrades

This fall a small bench fire broke out at the solder station. It was a scary moment but luckily nothing serious happened. After this event it was noted by a master goldsmith with a background in studio setup and management, that our solder station was not setup correctly. Jama Crawford then did extensive research on fire code and flammable gas management to define a list of urgent repairs. In early December, Club volunteers overhauled the Club's "hot work" areas, including an upgrade to some of the best soldering tools in the jewelry industry.

**These safety improvements and professional upgrades were made possible by those of you who generously and recently donated to Colorado Gives. Thank you very much!**

Fire code requires that *all Club members, shop stewards, teachers, and students who use or supervise the solder station* and flammable gases must be trained. It is imperative the those who use the solder station be properly trained in the use and maintenance of the equipment. This requires proof of successful completion by passing a written exam! The next in-person trainings are:

- Thursday January 5 at noon and 6 pm
- Tuesday January 10 at noon and 6 pm

Personal training is the best way to learn since you can handle the equipment and practice with an instructor. However, if you cannot attend an in-person

training, you can watch a 12-minute training video at <https://www.youtube.com/watch?v=tPJ0587qqeg&t=3s>. You may need to watch it a couple times to pass the exam. At your next visit to the Club, request an exam from a Shop Steward. While you take the exam, you may refer to the video or signs posted in the Club. If you are recently trained, please continue to review posted guidelines until bench safety and operation of the new equipment is second nature for you.







Note the new signage, sperate tanks for each soldering station (there are still three stations), gauges on each individual tank, and the new soldering torches! Wow - what an improvement!

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## 2023 Gem and Mineral Show!

Planning for our 69th Show is getting underway! If you are able to help plan and participate, please contact Cindy Pugsley at [cindypugsley@sbcglobal.net](mailto:cindypugsley@sbcglobal.net). We are accepting donations for the Silent Auction and also looking for an auction Chair.





### Open Shop Hours

Tuesday 1-4 pm

Tuesday 6:30-9 pm

Wednesday 9am-noon

Wednesday 1-4 pm

Thursday 1-4 pm

Thursday 6:30-9 pm

First & Third Saturdays 10am-2pm

### Open Shop Punch Card

If you like using open shop, remember we have a punch card for multiple use. [Prepurchase](#) 10 visits for \$45 - a \$5 savings - and don't worry about having your "shop fee" when you come in!

### Events of Interest

There are some interesting rock and minerals shows and events in Arizona. Below is a summary of some of them.

Quartzsite Minerals Coop (QMC) rock show, Quartzsite, Arizona from January 6-22 from 9-5 daily at the Tumbleweed RV Park on Kuehn Street. BLM camping across the street.

Quartzsite Gold Show, February 10-12, Friday-Saturday 9:00 am-4:00 pm, Sunday ends at 3:00 pm, \$5 entrance fee + 1 raffle ticket or \$10 entrance fee + 12 raffle

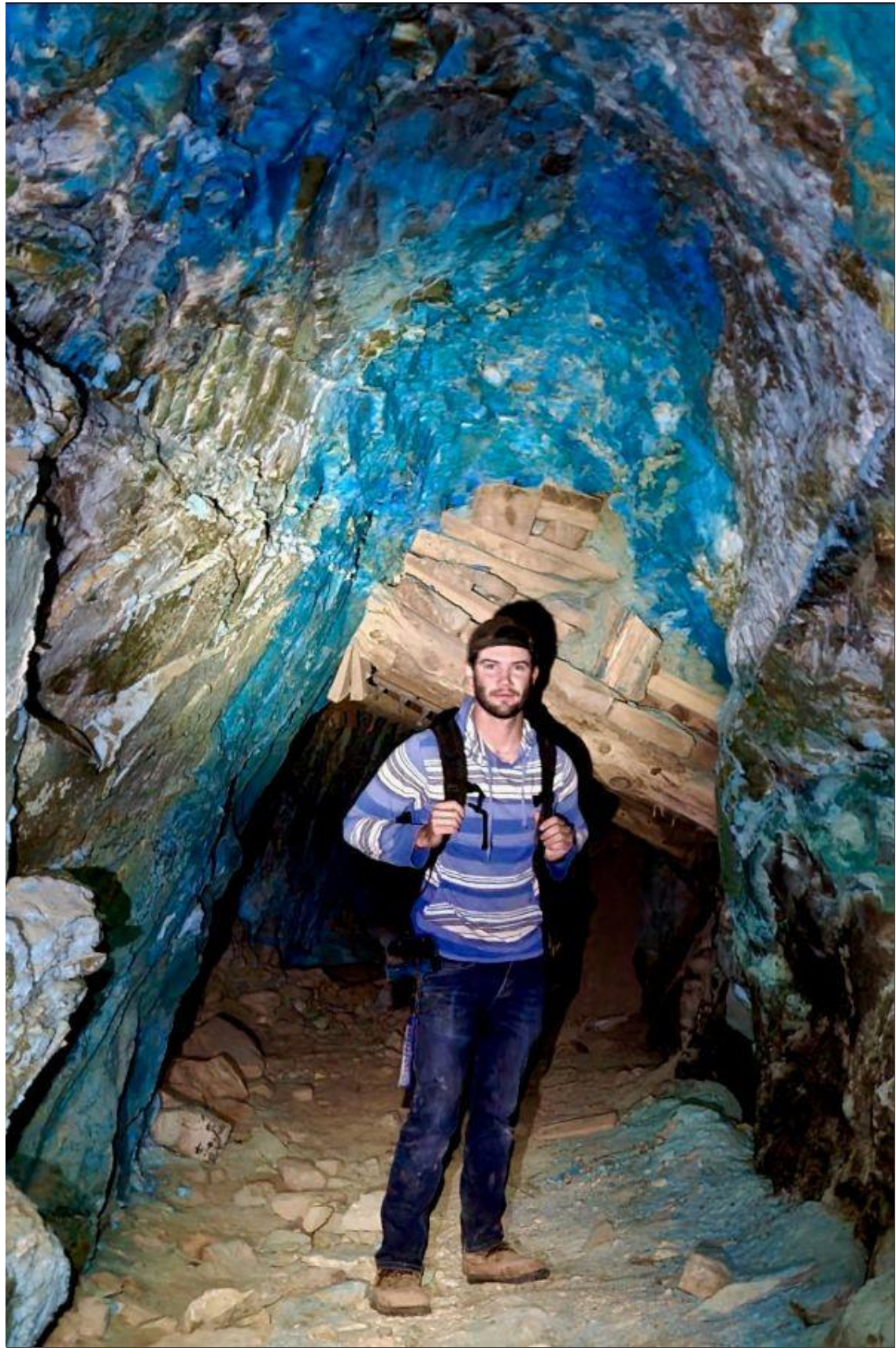
tickets.

Desert Gardens Annual International Rock, Gem and Mineral Show, Quartzsite, Arizona, January 1 to February 28, no entrance fees and no parking, camping available.

More information on these and other events in the region are available at: [All Mineral, Rock, Gem Shows, GeoSites, Rock Clubs in USA \(rockandmineralshows.com\)](#)

If you want to know what's going on at our Club (such as the in-person solder station trainings), visit the Club's calendar at [www.durangorocks.org/events.html](http://www.durangorocks.org/events.html).

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## Four Corners Focus

Whoa! WHERE is this?? If you haven't read this yet, club member and recent FLC grad, Matt Wanda's write up will be on the [Four Corners Focus page of our website](#) for the month of January as well!

### **Rock On: Star-O-Lite**

Many students ask me "What is your favorite mineral?" I always respond that I do not have a favorite, but I have a fondness for some like galena. I generally favor minerals with interesting properties, uses or histories. One of the minerals that I find intriguing is staurolite, a silicate mineral rich in iron and aluminum. You wonder why?

Staurolite has some wonderful and special characteristics. It is typically chocolate brown to yellowish brown or brownish black in hand specimen, but a wonderful golden to yellow pleochroism in thin section. It is a hard mineral (H = 7 to 7.5) with monoclinic symmetry but is pseudo-orthorhombic. This means the apparent symmetry of the crystals is similar that of a cereal box but in reality, it shares the symmetry of a parallelepiped. Untwinned crystals are usually rectangular that often terminate in a triangular shape but can also be short and stubby or tabular.

One of the more striking features of staurolite are penetration twins in the form of perpendicular or near perpendicular crosses, 60-degree crosses, and occasional multiple-twinned star shapes. The crystals with cross shapes are known as "fairy" crosses. Some of the more attractive crosses of this mineral resemble the Roman Cross, the St. Andrew's cross, and the Maltese cross. The rarest and coveted fairy stone is the Maltese shape.

One of the reasons I like this mineral is because of its catchy name. The name staurolite comes from the Greek term "Stauros" (cross) or "stauro" and "lithos" (cross stone) which refer to the cruciform twins. Historical names for this mineral include "cross-of-Brittany," for the region in France where it is found. In Germany this mineral is also known as "Taufstein", as large cross-shaped twins were used as decoration for the baptismal font in the church.

Fairy Stone State Park in Virginia is named after staurolite, and a legend tells of how the crystals were formed by the tears of a fairy. As the legend is described ([Legend of the Fairy Stone - State Parks Blogs \(virginia.gov\)](#)) "Hundreds of years before Pocahontas' father, Chief Powhatan, reined over the land that is now Virginia, fairies dance and played around springs of water with naiads and wood nymphs. One day an elfin messenger

arrived from a city far away and brought news of the death of Christ. When the fairies heard the story of the crucifixion, they wept and as their tears fell upon the ground, they crystallized to form beautiful crosses.”

The unusual shape of staurolite has made it an adored amulet. Historic superstitions tell that possessing one of these rare stones protects from illness, accidents, and even ward off a witch’s curse. Staurolite is thought to relieve stress and alleviate depression and addictions (good for New Year resolutions). It is also believed by some to protect a person from disease, accidents, and overall “negativity.” I should have a crystal or two around when I grade assignments.

In the geologic world, staurolite is found in regional metamorphic rocks that form at temperatures of 500°C to 650°C. Schist and gneiss formed from metamorphosed shale and siltstone commonly contain this mineral along with garnet + biotite + muscovite ± kyanite and sillimanite. Some notable locations where staurolite is found are Russia, France, Switzerland and Norway. In the United States well-known sites include Georgia (State Mineral), Virginia, Idaho, and near Taos, New Mexico. Yes, if you drive south of Taos into Rio Grande gorge there are great exposures of muscovite schist with staurolite and red almandine garnets.

In thin sections viewed under a petrographic microscope, staurolite dazzles with yellow pleochroism and large crystals with inclusions of other minerals that resemble Swiss cheese. These large crystals are called poikiloblasts which refers to large crystals the form during metamorphism and contain inclusions. If crystals do not have inclusions, then they are known as porphyroblasts (a large crystal that grew during metamorphic recrystallization).

**Sources of information:**

[Staurolite: Mineral information, data and localities. \(mindat.org\)](http://mindat.org)

[The Origin Of Geological Terms: Staurolite \(forbes.com\)](http://forbes.com)

[Fairy Stones \(natural crosses\) – SPOOKY GEOLOGY](#)

[Staurolite: The mineral staurolite information and pictures](#)

[Staurolite Meaning, Powers and History \(jewelsforme.com\)](http://jewelsforme.com)

[Staurolite: The mineral staurolite information and pictures](#)



Examples of twinned staurolite crystals (<https://www.mindat.org/photo-997009.html>).







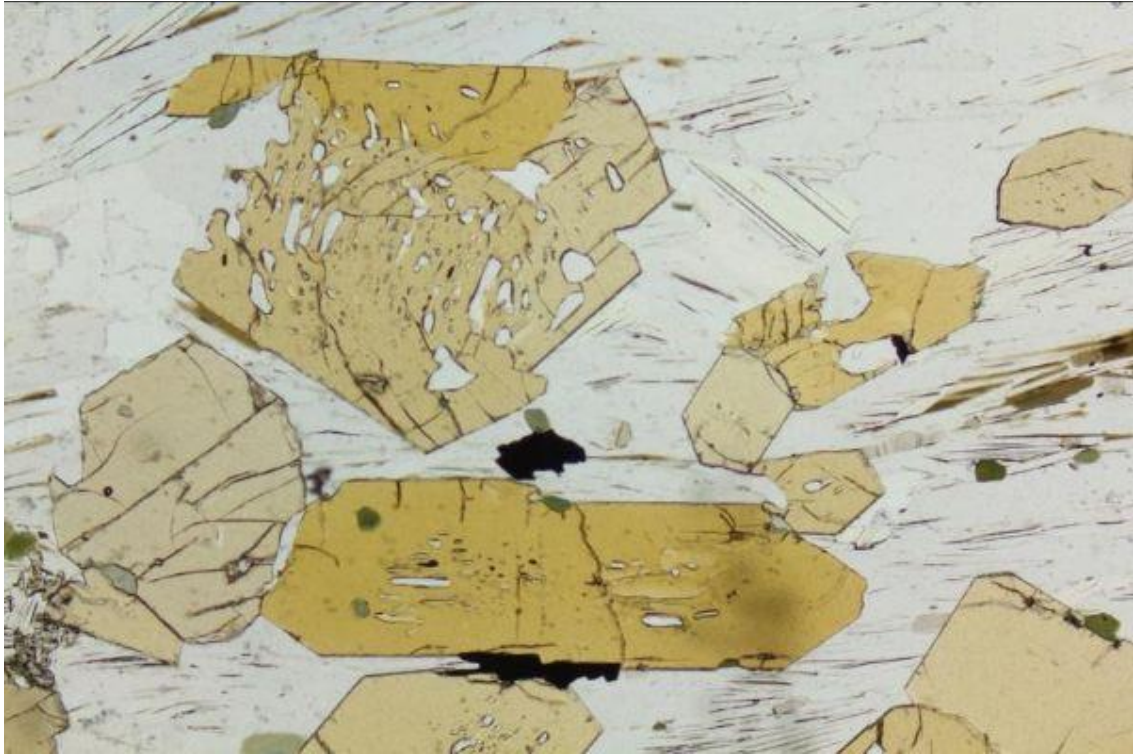
Photo Descriptions:

Upper left - Twinned staurolite crystals in muscovite schist from Pestsovye Keivy, Keivy Mountains, Russia (<https://geology.com>)

Upper right - Staurolite with a 60-degree penetration twin ([ALEX STREKEISEN-Staurolite-](#)).

Bottom left - Staurolite crystals with blue kyanite, Pizzo Forno, Tessin, Swiss Alps ([ALEX STREKEISEN-Staurolite-](#)).

Bottom right - Staurolite crystals along with small red garnets in mica schist exposed near Taos, New Mexico. Photograph taken by D. Gonzales.



Staurolite crystals (yellow to golden pleochroism) in schist along with ilmenite (black), green tourmaline, muscovite and quartz, Posada Asinara, Sardinia, Italy). Photomicrograph was taken in uncrossed polarization at 10x magnification (field of view = 2mm). Image is from ([ALEX STREKEISEN-Staurolite-](#)[Staurolite-](#)).



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