

Flatirons Facets

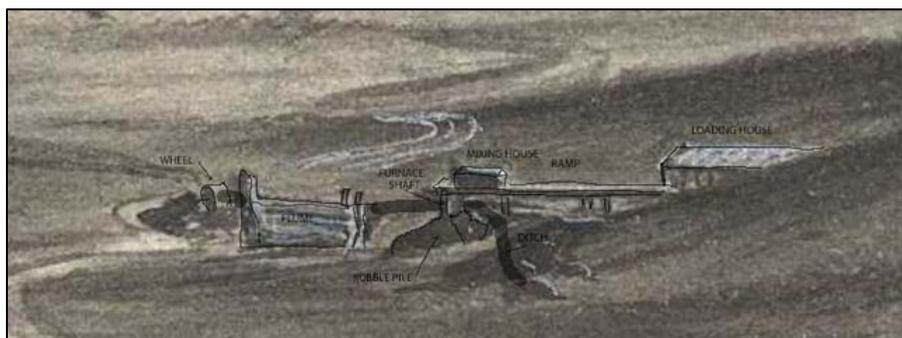
Flatirons Mineral Club of Boulder County, Colorado
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May-June, 2020

The Belle Monte Iron Furnace, Marshall, Colorado 1864-1869 Presentation by Beth Simmons, Ph.D.

May 14 Virtual Meeting on Zoom

Most are aware that the village of Marshall was a major coal mining center from 1859 through 1939. There are trails there now to take you to some of the historic mine sites. But few know about the primitive blast iron furnace, one of the earliest in Colorado Territory, that existed in Marshall during the 1860s, which was Marshall's original business.



The Belle Monte Iron Furnace operation at Marshall, Colorado

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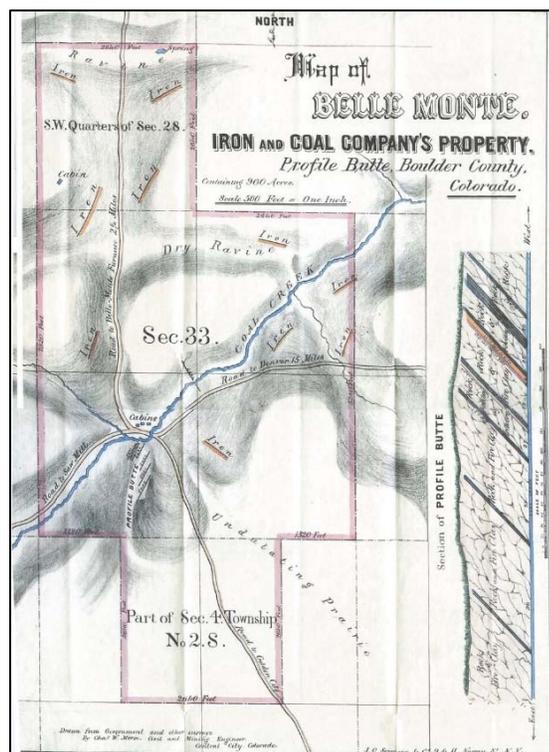
The attached map from the Belle Monte Iron Furnace prospectus in 1866 was the earliest detailed geologic map of anywhere in Colorado Territory!

Colorado railroad and business historian, Bill Reich, and historian/paleontologist Beth Simmons will guide you through the history of the mining and furnace in Marshall in a narrated PowerPoint presentation.

Then you can drive out to Marshall trailheads and take a hike!

The Zoom link will be emailed to all members a few days before the meeting.

If you have not used Zoom before, please see the instructions on page 4.





President's Message

Safer at Home, Stay at Home, all of these guidelines to help keep us protected from the COVID-19 threat. As a non-profit organization the Flatirons Mineral Club needs to adhere by them. We are anxiously awaiting the all clear so we can resume normal club activities. In the meantime, the FMC Board is queuing up field trips. As things open up, there are some great geologic field trip guides you can personally follow. Two that I recommend are [Colorado Front Range Self-Guided Geology Field-Trips](#) by U.R.Kackstaetter, Ph.D., Metropolitan State University and [Geology of Boulder County](#) by Raymond Bridge. Stay safe.

Brian Walko, President

The Flatirons Mineral Club is a non-profit Organization which is dedicated to developing and maintaining interests in Earth science and associated hobbies. The purpose of this Club includes, but is not limited to, studying geology and Earth science, teaching others about our hobby, including young people, collecting gem, mineral and fossil specimens and learning lapidary skills.

The Flatirons Mineral Club is affiliated with the Rocky Mountain Federation of Mineralogical Societies, the American Federation of Mineralogical Societies, and the Greater Denver Area Council of Gem and Mineral Societies.



June Club Meeting

For our June meeting on the 11th, we will have several members speak for “member collage” on rockhounding topics. Each talk will be 10 to 15 minutes long. Topics will be announced next month.

If we are still practicing social distancing at this time, the meeting will be held virtually on Zoom.

Field Trips

Usually this would be the kickoff for field trip season. However, because we do not know when the COVID-19 restrictions for groups will be lifted, no field trips are planned at this time. However, once we are no longer practicing social distancing, field trips will be finalized and dates will be announced.

North Table Mountain Trip: This field trip, originally scheduled for April 18, was postponed. Our permit from Jefferson County has been changed to Saturday, August 29. If you were signed up for the trip, you are now signed up for the new date. The trip is now full, but you can be added to the waiting list by contacting Dennis at gertenbach1@gmail.com.

Field Trip Coordinator Needed

The field trip coordinator schedules field trips for club members during the warm weather months. This person works with other club members to identify new locations for trips and trip leaders to lead them. The field trip coordinator is also a club Board member.

Please consider volunteering for this position. Gabi has agreed to help the field trip coordinator with this job. Plus, other Board members are more than willing to assist you. To learn more about the requirements, please contact Gabi at accatino@colorado.edu or Brian at earthextractions@gmail.com.

Club Participation in STEAM Fest 2020

For the second year, the Flatirons Mineral Club participated at the Rocky Mountain STEAM Fest March 7 and 8. The festival is designed to promote interest in science and art in children; STEAM stands for **S**cience, **T**echnology, **E**ntrepreneurship (innovation, engineering), **A**rt and **M**ath. Featured are exhibitors, activities, entertainment, education and more, where children can touch it, interact with it, test it, experiment with it and sometimes even take it home!

Our club had two matching games, one with minerals and another with fossils. It is amazing how good some kids are with this. We also had literature about the club for both parents and students, making contact with about 400 people. Thanks to all club members who help this year.

Gerry Naugle at the club table at STEAM Fest 2020. Photo by Charlotte Bourg



Mark Your Calendars for the Annual Picnic on August 15

As far as we presently know, that the annual picnic is still on for Saturday, August 15 at Harlow Platts Park, the same place as the last several years. The park is located just south of the South Boulder Recreation Center at 1360 Gillespie Drive, Boulder, 80305. The picnic starts at 11:00 am. Folks with last names beginning with A-M are asked to bring a covered dish and folks with last names beginning with N-Z should bring a dessert. BBQ sandwiches and beverages will be provided by the club. Afterward lunch, we will present several awards, including our Rockhound of the Year.

Plan to join us for a fun Saturday.

Nominate a Club Member as Our Rockhound of the Year

Each year, the club honors an active member or husband-and-wife team who have contributed to the success of the Flatirons Mineral Club. Our first Rockhound of the Year was honored in 2002, and each year since a club member has been selected as our Rockhound of the Year by the club membership.

Recipients for this honor are first nominated by club members. Please consider nominating someone this year - perhaps someone who leads field trips, helps organize the club show, assists with club meetings, or helps with the Jr. Geologists. A nomination form can be found at the end of this newsletter.

Please return your nomination to Gerry Naugle by July 12. It can be mailed to Flatirons Mineral Club, P.O. Box 3331 Boulder, CO 80307-3331, or emailed to Gerry at gnaugle@earthlink.net.

Jr. Geologists Activities

Jr. Geologists meetings have also been canceled the past two months because of social distancing requirements. However, the Jr. Geologists have been working on badges and other activities from home.

Notes to Seniors: One of our projects was to write notes to seniors at Frasier Meadows who are isolated from families and friends. Notes and pictures were scanned and sent to 15 seniors at the facility to help brighten up their day.

Another project was coloring pictures of minerals from A to Z. The juniors researched the proper colors for their pictures.

The Jr. Geologists program is open to all Flatirons Mineral Club families. Meetings are at the Meadows Branch Library at 4800 Baseline Rd, Boulder, CO 80303 (behind the Kaiser Permanente medical offices). For information about the Jr. Geologists program, please contact Dennis at gertenbach1@gmail.com or 303-709-8218.



Minerals A to Z from Daniel and Charlie

FMC Virtual Meetings on Zoom: How to Participate.

The 7:00 PM meeting on May 14, will be a virtual meeting presented over **Zoom**. Try to join by 6:55 PM using a URL link to be emailed to you before the meeting. Seasoned Zoom veterans will know what to do.

If you are a Zoom novice, this summary with video links gets you started. Zoom allows a Host presenter who controls the roles of other **Participants**. As a novice, allow yourself a *minimum* of 15 minutes to set up before the time of the presentation. (It could take less, but be pessimistic.) These short videos describe what you will do - the same basic information presented three different ways. *Watch them well before the meeting:*

<https://support.zoom.us/hc/en-us/articles/201362193> 'Joining a Zoom meeting.' 1.09 min.

<https://www.youtube.com/watch?v=6fIYWnfTc5o> 'Joining a Zoom meeting for the first time – A cozy step-by-step guide.' 6.08 min.

<https://www.youtube.com/watch?v=NIYudDeULLw> 'How to join a Zoom meeting for the first time.' 2.26 min.

These videos are for laptops versions (Windows or Mac) and explain a Zoom download and install if required. The link you will receive also works for your iPad or Smartphone, but with some screen variations. Download & install the Zoom App ahead of time

The many on-line guides and videos mainly address the Host function rather than the Participant function. Participants can reset various options including their background image, but this is beyond the scope of this introduction. Controls/options may be frustratingly hidden by default until you hover the mouse over the bottom edge of the screen. At top right of the default screen, as a participant you can toggle between **Speaker** and a **Gallery** of the participants - see this link: <https://support.zoom.us/hc/en-us/articles/201362323-How-Do-I-Change-The-Video-Layout->

Enjoy, and smile for the camera!

Write an Article for the Club Newsletter

Looking for something to do, while you stay at home waiting for the coronavirus pandemic to pass? Consider writing an article for the club newsletter, like the articles by Brian Walko (page 6); Alex Morreale, age 13 (page 9); and Dennis Gertenbach (page 10)

One of the best features in each club newsletter are articles and other contributions by club members. Club members have a wide range of interest in earth science and rockhounding and are willing to share their interest with other members through articles, photos, poetry, and artwork.

We are looking for items from all age groups, including adults and Jr. Geologists. This year, consider sending a contribution to the newsletter to Dennis at gertenbach1@gmail.com. If you need help with your contribution, please contact Dennis.

Free Admission to the 2020 Denver Show September 18-20



As of now the show is still on, but to be a success it needs volunteers from all 8 clubs that sponsor the show. You can be part of it. And, you will be richly rewarded with free admission, free snacks at the hospitality room, and a souvenir volunteer ribbon.

Here are some places where you can help.

- Do you like working with kids? Volunteer at the club table running games and talking about our club.
- Do you want to watch out for bad guys? Help with security.
- Would you like to help create the masterpiece of the Denver Show? Volunteer for setup and tear down.
- Want to see where all of those rocks you stuffed into grab bags go? Then selling grab bags is your thing.

- Want to lend a hand to others? Then volunteer to help at the Information Booth or Hospitality Room
- And, if you just want to help, volunteer to “work anywhere.”

To volunteer for any of these areas, or for more information, please contact Anita at anitacolin@hotmail.com.

2020 Tucson Gem and Mineral Shows

Brian Walko

I had the opportunity to attend the 2020 Tucson Gem and Mineral Show (TGMS) this February. The TGMS is the main show held at the Tucson Convention Center and hosted by the Tucson Gem and Mineral Society. There were 50+ satellite shows encompassing the entire I-10 corridor throughout Tucson. All these shows hosted approximately 4,000 vendors and exhibitors with an attendance of 65,000 people over a two-week period.

My first challenge was where to start. I asked fellow visitors from the Denver area and they recommended about 10 key shows to visit. I developed a plan to spend one day touring a few mineral shows and the next day sightseeing around the Tucson area, alternating until I returned home.



The shows spanned from dealers renting parking lots, filling them up with 50-gallon drums of bulk material, to dealers in industrial parks, hotels and under massive tents.



The most impressive of the non-TGMS shows was the Fine Mineral show at the exclusive Westward Look Resort. Visiting these dealers was like having the best specimens from the world’s top museums all in one place. I learned a new acronym, POR or Price on Request.



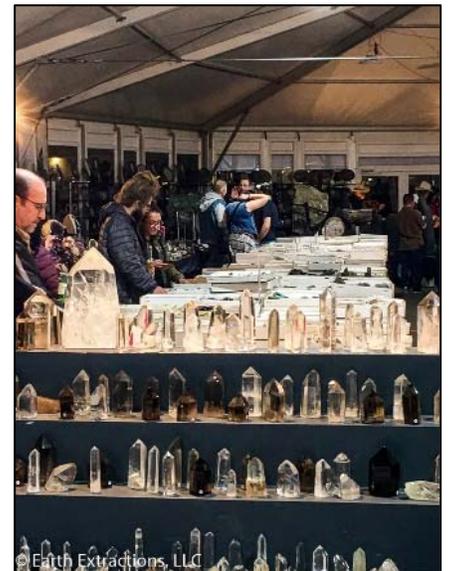


Fortunately, I only keep what I personally collect. Otherwise, my VISA card would have been maxed out.

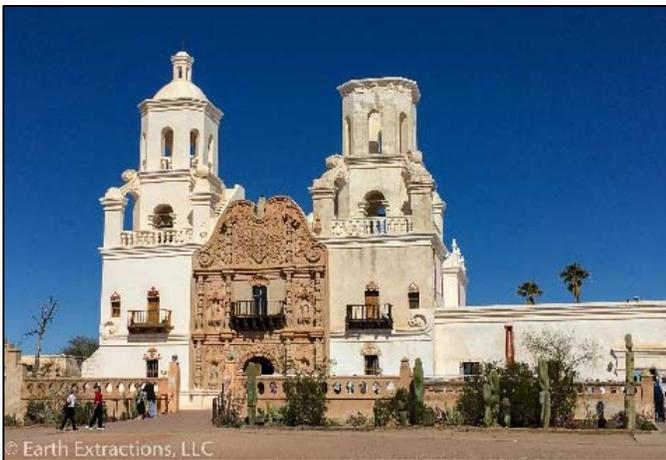


I networked my way into several private dealer evening events that included all the food and drink a person could want with 50% off specimens (an interesting marketing scheme).

I attended some geologic lectures. FMC's Markus Raschke gave a great presentation on his adventure to Xuebaoding, China entitled "Mining Above the Clouds". A lot of national and international clubs hold their annual meetings in Tucson during this time. I attended the Fluorescent Mineral Society's annual meeting with guest speakers Jeff Scovil, world famous mineral photographer, and Jeff Post, Smithsonian Curator of Gems and Minerals.



On the turista side, I had lunch with Gabi and the roadrunners at the San Xavier Mission.



I visited the Sonoran Desert Museum, Saguaro National Park, Pina Air and Space Museum, and drove to the top of Mt. Lemmon going from 2,000 ft and 70 degrees to 9,000 ft and 39 degrees with a small ski area!



Another highlight was a visit to the Queen Copper Mine in Bisbee to collect fluorescent sphalerite and calcite.



If you have not made the pilgrimage to the Tucson Shows, I highly recommend it for next year. The 2021 TGMS' theme is "The Show That Glows!" It celebrates 50 years of the Fluorescent Mineral Society with over 70+ cases of fluorescent minerals from around the world. I will be one of the tour guides for this event. I hope to see you there.

Nautiloids

Alex Morreale, Age 13

Nautiloids are marine cephalopods that were first seen in the Late Cambrian. Nautiloids are a subclass in the phylum Mollusca. Mollusca is a diverse phylum of invertebrate animals. This includes animals such as snails, squid, oysters, etc. Today, the only living nautiloids are the *Nautilus* and the *Allonautilus* (fig. 1).

During the Paleozoic era the nautiloids grew in numbers. Approximately 2,500 species have existed, all with a variety shell shapes and forms (fig. 2/fig. 3). They are classified in a class of mollusks including ammonoids, belemnites, and coleoids. There are some basic structures in a nautiloids shell such as the septa and the phragmocone (fig. 4/fig. 5).



Fig 1: *Nautilus* (top) and *Allonautilus* (bottom). Credit: Peter Ward/University of Washington



Fig 2: Extinct straight nautiloid. Credit: copyrighted Nobu Tamura, CC BY-SA license, https://commons.wikimedia.org/wiki/File:Orthoceras_BW.jpg



Fig 3: Extinct curled nautiloid. Credit: Dirk Wachsmuth/Behance.net, CC BY-NC 4.0, <https://www.behance.net/gallery/16077645/Nautiloid>

Orthoconic Nautiloid Anatomy

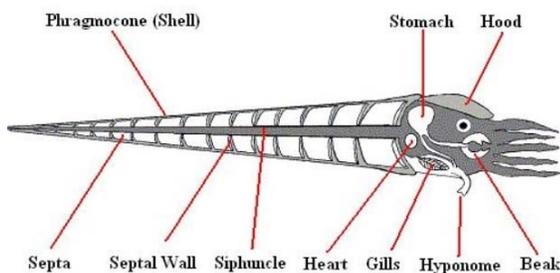


Fig 4: Nautiloid basic anatomy. Credit: www.geocaching.com

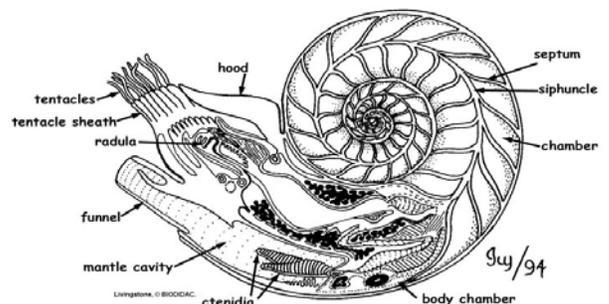


Fig 5: Present-day *Nautilus* anatomy. Credit: North Carolina State University

The majority of knowledge we have about nautiloids is from the modern-day relatives. Nautiloid shells are usually smooth, but some species have ribs and spines on them. Basically, nearly all of the nautiloids known are fossilized and extinct (**fig. 6/fig. 7**).



Fig 6: My collection contains a type of nautiloid called an *Orthoceras*. *Orthoceras* meaning “straight horn” is an extinct nautiloid creature. It lived approximately 400 million years ago.



Fig 7: This nautiloid fossil from my collection is an example of a curled nautiloid. The shell would contain many air-filled chambers.

Nautiloid Basic Taxonomic Classification

Kingdom ->	Animalia
Phylum ->	Mollusca
Class ->	Cephalopoda
Subclass ->	Nautiloidea

Sources

- <https://en.wikipedia.org/wiki/Nautiloid>
- <https://www.britannica.com/animal/nautiloid>
- <https://www.oum.ox.ac.uk/thezone/fossils/inverts/nautilo.htm>

Alex is a seventh grader whose paleontological interests include dinosaurs and *Megalodon* sharks.

Colorado’s Fabulous Mineral Palace

Dennis Gertenbach

The year was 1889, and mining in Colorado was at its peak. Gold, and even more importantly silver, streamed from the mountains. Along the Front Range and on the Western Slope, coal mines provided energy for smelters and other

industries in the state. What better way to celebrate and promote this mineral wealth throughout the world than to build a palace showcasing mining in the state?

In 1889, the future seemed bright for Pueblo, Colorado. With three smelters and one steel mill, Pueblo was a rapidly growing city. The city saw itself developing into a major urban center, based on the mineral wealth from the area. Helping to cement both Pueblo's and Colorado's status as a world cultural center, the idea of splendid tourist attraction was born - the Mineral Palace.

From Dream to Reality

On July 6th, 1889, twenty prominent businessmen from Denver, Colorado Springs, and Pueblo met in secret in Manitou Springs to discuss forming a corporation with the goal of building a stunning exposition hall worthy of competition with London's Crystal Palace. Although it is not known who originally had the idea, it was William "Coin" Harvey who convinced the men to invest in the palace.

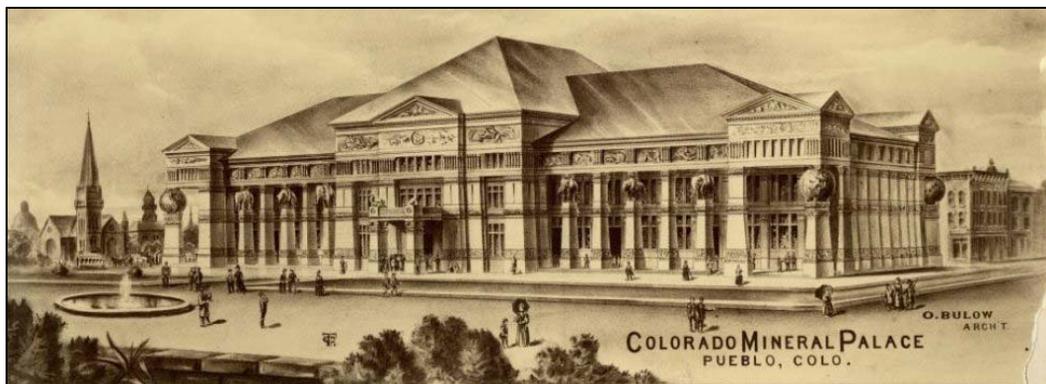
Harvey was a western character who was prone to participation in shady enterprises. He was involved with mining in Ouray in 1884, then moved to Pueblo in 1888, where he opened a real estate office. Another side business of his was promoting "the elixir of life" with sanatorium owner Dr. R.W. Corwin. This elixir was actually just water from Lake Minnequa in Pueblo, but Harvey claimed it could cure everything from chronic illness to psychosis.

Harvey believed Pueblo was going places. Or, at the very least, he was going places and Pueblo could help him do it. His proposal to the twenty businessmen was building and managing a magnificent hall to exhibit the treasures from Colorado's mines. As many of the businessmen assembled at Manitou Springs were miners, this was favorably supported. Harvey proposed a budget of \$100,000 (about \$3.5 million in today's dollars) and the participants quickly raised the funds. Perhaps not so coincidentally, many of these men would start businesses or build in the area around Mineral Palace in the years to come.

Building the Grand Palace

A site located on 27 acres north of the Pueblo business district and within a short distance of the Denver and Rio Grande Depot was selected for the Mineral Palace. The location near the train depot allowed tourists to easily get to the palace, as well as to nearby businesses.

To create a suitable palace for Colorado's mineral treasures, a call was put out to architects from all over the world. Architect and native Puebloan Otto Bulow's design was chosen from plans submitted by architects across the nation. Considered one of the most ornate and magnificent buildings then in existence in the United States, the Mineral Palace was "Egyptian" in design. The entire façade had a colonnade and at each corner of the exterior was an eight-foot world between the column and roof.



A hand-drawn image of the Colorado Mineral Palace. Credit: Pueblo City/County Library Collections

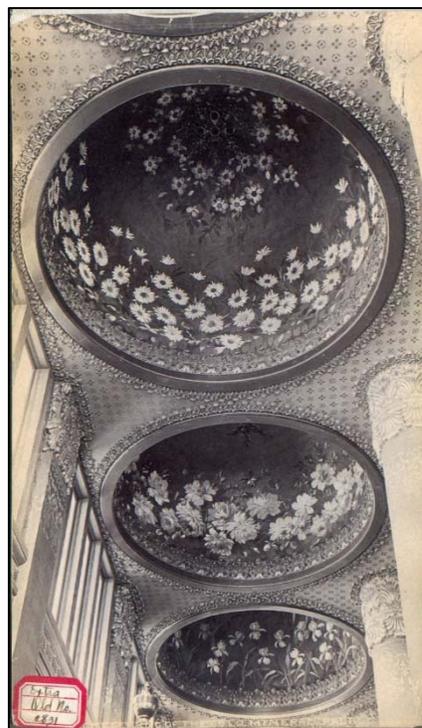
The building's principal dome was 72 feet high, making it the largest domed structure in the world at the time. It was decorated with female figures, 16 feet in length, representing the various countries of the world. In the dome were large paintings of eight great Americans done in cameo effect. No one remembers who the eminent Americans were. Surrounding the central dome were 20 smaller domes, 11 feet in diameter that were each beautifully hand painted on the interior with wild flowers from Colorado and India.



Interior of the Mineral Palace. Credit: William Henry Jackson/Denver Public Library

The general color scheme of the building interior was terra cotta and gold, decorated in East Indian style. The interior of the Palace was a huge block-long hall with space enough for 3,500 persons for the various grand balls, meetings, plays, and other events held there. Entirely around the interior ran a frieze composed of silver dollars encircling coat-of-arms of the various states and territories. Fifty pillars with cases for viewing the minerals lined the hall.

The centerpiece of the hall were the statues of Queen Silver and King Coal. Between these statues was a huge stage on which many dramatizations were presented. The deep stage was designed as a large grotto, constructed of immense natural stalactites and stalagmites. In its center bubbled a mountain stream and a waterfall from which a mechanical nymph appeared at intervals to grasp sparkling nuggets.



View of three of the ceiling domes, featuring Colorado wildflowers. Credit: William Henry Jackson/Denver Public Library



Woman on stage at the Mineral Palace flanked by the statues of Queen Silver and King Coal. Photo from the Colorado Historical Society

Thomas Nelson, the Colorado Mineral Palace Company's secretary, put out a general call for Coloradoans to send samples of all the minerals in their areas so as to make the "collection as nearly exhaustive as possible." J.P. Morgan donated his entire personal collection of minerals for exhibition.

Beset by Problems

Glamorous stories in the press hid problems with the construction of the Mineral Palace. The anticipated completion date came and went. The corporation had run through its money and, because of an economic downturn and falling silver prices, raising more seemed impossible. In addition, there was squabbling among the board members, including some suspicion that Secretary Nelson had "mishandled" the subscriptions. The company started to garner a bad reputation, so much so that many people even denied involvement in the project.

The city of Pueblo provided an infusion of cash, and the board was reorganized. Some serious cuts in the design of the building were made, using stone instead of brick and paint instead of minerals on the outside walls. Some of the elaborate interior designs were also toned down.

But, even with these modifications, the finished Mineral Palace was considered one of the show places of the West in 1890's. The Mineral Palace lived up to the dream as a monument to Colorado's mineral wealth and industry.



The all-night-long grand opening festivities at the Palace in 1891. Photo from the Pueblo City-County Library Special Collections

The Grand Opening

The Mineral Palace opened with great fanfare on July 4, 1891 with parades, important guests, fireworks, and a fancy-dress ball that went on all night. The Cowboy Band of Silverton, Colorado, furnished music for the affair. Its grounds were planted with Pueblo's first major flower gardens.

The public was thrilled with the largest mineral exhibit in the world at the time, plus fossils and petrified wood from all over the globe. They were displayed in glass cases at the base of the columns and along the side walls. Small anterooms on the sides were reserved for afternoon tea. Crowds of Puebloans and tourists gathered at the Palace for stand-up suppers.



Queen Silver and King Coal

The center attraction of the hall was twin statues, Queen Silver and King Coal, seated on each side of the center stage. These statues were designed by Pueblo artist Hiram L. Johnson.

King Coal was 14 feet high and was donated by the City of Trinidad to represent the area's coal industry. He was dressed in a cloak of "dark minerals," with "diamonds" (probably just glass) decorating his crown and

The statue of King Coal, 1891.
Credit: William Henry Jackson/Denver Public Library

coal topping his scepter, and was seated on a pedestal made of copper and nickel with glass display cases. King Coal image even graced boxes of Trinidad cigars.



The Silver Queen in her regal chariot.
Credit: Aspen Historical Society

But it was glittering Queen Silver who stole the show. A gift of the Aspen silver mines, Queen Silver was modeled after Mollie Gibson and was embellished lavishly. According to legend, Queen Silver was made out of the largest nugget of silver ever pulled from the Gibson mine, which was made into her crown. (This story cannot be true, as this nugget was discovered in 1896.) Her hair was of white glass, her gown beautifully decorated with minerals, and her scarf sparkled with blue crystals. Her bust and arms were silver (or silver-coated or tin-coated). Standing 16 feet high, the scepter she held was topped with a 12-inch replica of a silver dollar.

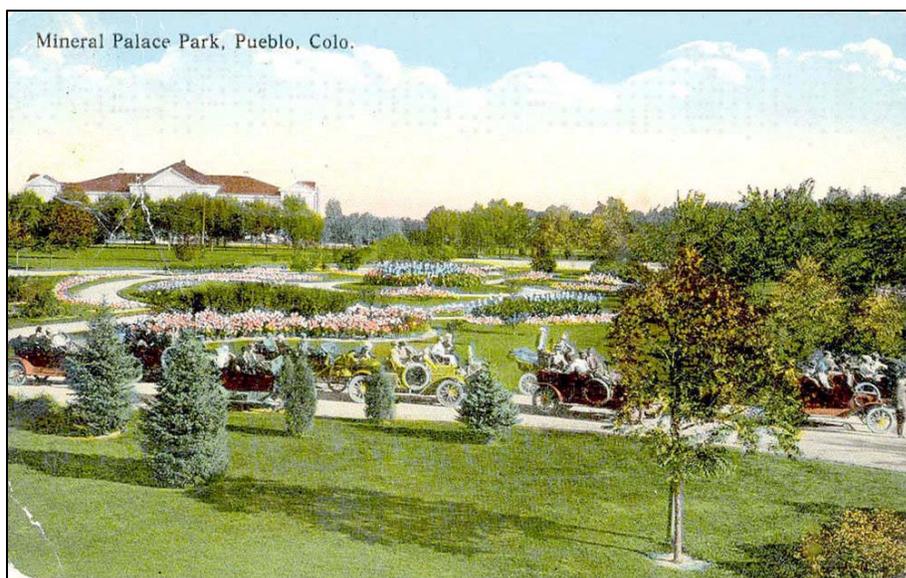
After a brief appearance in the Mineral Palace for the grand opening, she traveled to Aspen. From there, she was sent to represent Colorado in the Columbian Exposition in Chicago, along with promoting the Sherman Silver Purchase Act that required the government to purchase silver for coinage. (The repeal of this act in 1893 resulted in the drastic decline of silver mining in the state.)

The statue remained in Chicago for a time after the Exposition closed, and when she finally came back to the Mineral Palace, she was significantly altered. The stag on the prow of the Queen's barge and the coins from the boys' cornucopias were missing. The Queen's face and body did not look

the same. Speculation was that the Silver Queen burned in one of the fires at the Columbian Exposition or was she stolen and stripped of its silver. No one knows.

The Mineral Palace Park

To complement the Mineral Palace, Pueblo acquired land around the palace for a public park. In 1897 the organization founding Mineral Palace gave the Palace to the city, and around it the Mineral Palace Park was built. Trees were imported from many parts of the nation. A lake was created, with a boathouse pavilion, and a bandstand on the lakeshore. The lake was named for Clara Latshaw, who served on the first Park Board of Commissioners and was instrumental in acquiring the land for the park. The boathouse, located on the west side of the lake, provided rental row and paddle boats for park's visitors. The park had zoological gardens with tropical plants and trees. There was an animal zoo and a children's playground.



Postcard showing Mineral Palace Park, with the Mineral Palace in the background.

The End to the Mineral Palace

From the onset, the Mineral Palace was fraught with financial troubles. With the mining boom over, the optimism that had kept the Colorado Mineral Palace Company afloat was rapidly fading. Within a year the Palace was obtained by the City of Pueblo at the company's request.

For several years, tourists continued to visit the palace. However, by 1927 the building was described as ramshackle. It was too expensive to keep up properly, or even to heat (the designers had neglected to install windows, so it was always freezing). In 1938 and 1939, the WPA restored the building to its former glory, but by 1943 the city decided to tear it down completely for "the war effort" and public safety. All the minerals left in the building were liquidated for the sum total of eight hundred dollars. Queen Silver and King Coal had disappeared by then; no one knows their fate.

Mineral Palace Park remains today and is enjoyed by residents and visitors to Pueblo.



Mineral Place postcard from around 1910

References and Additional Reading

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- Pueblo, Colorado, "History of Mineral Palace Park," <https://www.pueblo.us/DocumentCenter/View/675/History-of-Mineral-Palace-Park>
- Selcer, Richard (2014), "People's Palaces," *American History*, April.
- Stolen History (2019), "1891 Colorado Mineral Palace", <https://www.stolenhistory.org/threads/1891-colorado-mineral-palace.1543/>

Get Ready for Field Trip Season with Our Code of Ethics

A large measure of the enjoyment of our hobby is collecting in the field. For this reason, the American Federation of Mineralogical Societies of which our club is a member is proud to endorse the following Code of Ethics. This Code of Ethics helps guide our members as they participate on both club field trips and their own personal collecting activities. By following these guidelines, both private and public lands can remain open to collecting.



- I will respect both private and public property and will do no collecting on privately owned land without permission from the owner.
- I will keep informed on all laws, regulations or rules governing collecting on public lands and will observe them.
- I will, to the best of my ability, ascertain the boundary lines of property on which I plan to collect.
- I will use no firearms or blasting material in collecting areas.
- I will cause no willful damage to property of any kind such as fences, signs, buildings, etc.
- I will leave all gates as found.
- I will build fires only in designated or safe places and will be certain they are completely extinguished before leaving the area.
- I will discard no burning material - matches, cigarettes, etc.
- I will fill all excavation holes which may be dangerous to livestock.
- I will not contaminate wells, creeks, or other water supplies.
- I will cause no willful damage to collecting material and will take home only what I can reasonably use.
- I will practice conservation and undertake to utilize fully and well the materials I have collected and will recycle my surplus for the pleasure and benefit of others.
- I will support the rockhound project H.E.L.P. (Help Eliminate Litter Please) and will leave all collecting areas devoid of litter, regardless of how found.
- I will cooperate with field-trip leaders and those in designated authority in all collecting areas.
- I will report to my club or federation officers, Bureau of Land Management or other authorities, any deposit of petrified wood or other materials on public lands which should be protected for the enjoyment of future generations for public educational and scientific purposes.
- I will appreciate and protect our heritage of natural resources.
- I will observe the "Golden Rule", will use Good Outdoor Manners and will at all times conduct myself in a manner which will add to the stature and Public Image of Rockhounds everywhere.

Member Name Tags

Would you like a Flatirons Mineral Club name tag to wear at club events and field trips? The club places orders for name tags several times a year for members.

If you would like a name tag, please log onto our website and choose the "Request a Name Tag" link in the Members Area. Add your name to the list as you want it to appear on your name tag and it will be ordered for you. Your first name tag is free!

Example of a club name tag



Rocky Mountain Federation Convention in Wyoming

Come one, come all to the Rocky Mountain Federation Convention on June 18-21 in Big Piney, Wyoming, the heart of Sublette County. Our club is a member of the Rocky Mountain Federation of Mineralogical Societies, which sponsors a convention each year. Everyone is invited to attend the convention.

This year's conference will be held in conjunction with the Wyoming State Mineral and Gem Society. Activities during the show are designed to inform and entertain at all levels of knowledge in the fields of geology and lapidary, from novice to expert. Planned field trips include collecting Blue Forest petrified wood, fish fossils (fee dig), and others.

The location in western Wyoming features friendly people, comfortable accommodations, fresh air, and amazing outdoor recreation opportunities. The convention at the Sublette County Fairgrounds is conveniently located near other towns, tourist destinations, rock hunting, fishing, museums, Fossil Butte National Monument, Grand Teton and Yellowstone National Parks, and major airports. Wyoming is a great place to explore and a place known for its wonderful rocks!

For more information, please download the registration packet at [2020 RMFMS Conference Registration Package](#). Come and enjoy the show!



Fossils in the News

Dennis Gertenbach

Bizarre Mammal Discovered on Madagascar

An international team of researchers, led by David Krause of the **Denver Museum of Nature and Science**, has discovered a new mammal that lived among the dinosaurs towards the end of the Cretaceous Period. The description of this new mammal, called *Adalatherium* (translated from the Malagasy and Greek languages and means "crazy beast"), is based on a nearly complete skeleton that is astoundingly well preserved. Although only the size of a modern-day opossum, it was among the largest mammals that lived at that time.



Life-like reconstruction of *Adalatherium hui* from the Late Cretaceous of Madagascar.

Credit: Denver Museum of Nature & Science/Andrey Atuchin

mammal, holes that served as passageways for nerves and blood vessels supplying a very sensitive snout that was covered with whiskers. And there is one very large hole on the top of its snout for which there is no parallel in any known mammal, living or extinct. The teeth of *Adalatherium* were vastly different in construction than any known mammal. Its backbone had more vertebrae than any Mesozoic mammal and one of its leg bones was strangely curved.

The new *Adalatherium* mammal is just the latest of a series of bizarre back-boned animals discovered by Krause and his research team on Madagascar over the past 25 years. Earlier discoveries have included a giant, armored, predatory frog (*Beelzebufo*), a pug-nosed, vegetarian crocodile (*Simosuchus*), and a small, buck-toothed dinosaur (*Masiakasaurus*).

To learn about this discovery, see <https://www.dmns.org/science/earth-sciences/projects/marooned-on-mesozoic-madagascar/>

Information and illustration from the press release at <https://www.dmns.org/press-room/press-kits/adalatherium-discovery/>



This artist's illustration shows a massive dinosaur *Carcharodontosaurus* with a group of crocodile-like *Elosuchus* predators near a carcass. Credit: Davide Bonadonna

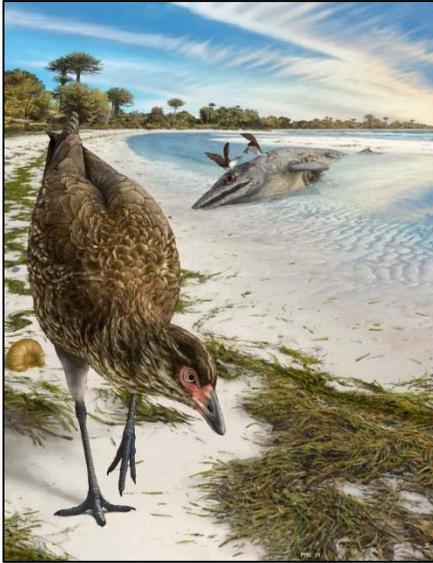
The Most Dangerous Place in the History of Planet Earth

A new study has documented a world of ferocious predators, including flying reptiles and crocodile-like hunters that once existed in southeastern Morocco. About 100 million years ago, the area was home to a vast river system, filled with many different species of aquatic and terrestrial animals. Fossils from the Kem Kem Group include three of the largest predatory dinosaurs ever known, including the saber-toothed *Carcharodontosaurus* (over 26 feet in length with enormous jaws and long, serrated teeth up to eight inches long) and *Deltadromeus* (also around 26 feet in length, a member of the raptor family with long, unusually slender hind limbs for its size), as well as several predatory flying reptiles (pterosaurs) and crocodile-like hunters.

Many of the predators were relying on an abundant supply of fish, according to co-author Professor David Martill from the University of Portsmouth. He said: "This place was filled with absolutely enormous fish, including giant coelacanths and lungfish. The coelacanth, for example, is probably four or even five times larger than today's coelacanth. There is an enormous freshwater saw shark called *Onchopristis* with the most fearsome of rostral teeth, they are like barbed daggers, but beautifully shiny."

According to Nizar Ibrahim, one of the researchers, "This was arguably the most dangerous place in the history of planet Earth, a place where a human time-traveler would not last very long."

Information and illustration from the press release at <https://www.port.ac.uk/news-events-and-blogs/news/palaeontologists-reveal-the-most-dangerous-place-in-the-history-of-planet-earth>



A reconstruction of *Asteriornis maastrichtensis*. Credit: Phillip Krzeminski

'Wonderchicken' Reveals Origin of Modern Birds

The oldest fossil of a modern bird yet found, dating from the age of dinosaurs, has been identified by an international team of paleontologists. This spectacular fossil, affectionately nicknamed the 'Wonderchicken', includes a nearly complete skull and dates from less than one million years before the asteroid impact which eliminated all large dinosaurs. Detailed analysis of the skull of *Asteriornis maastrichtensis* shows that it combines many features common to modern chicken- and duck-like birds, suggesting that the 'Wonderchicken' is close to the last common ancestor of modern chickens and ducks. The fossil was found in a limestone quarry near the Belgian-Dutch border, making it the first modern bird from the age of dinosaurs found in the northern hemisphere.

"The origins of living bird diversity are shrouded in mystery -- other than knowing that modern birds arose at some point towards the end of the age of dinosaurs, we have very little fossil evidence of them until after the asteroid hit," said co-author Albert Chen. "This fossil provides our earliest direct glimpse of what modern birds were like during the initial stages of their evolutionary history."

Information and illustration from press release at

<http://www.sedgwickmuseum.org/index.php?mact=News,cntnt01,detail,0&cntnt01articleid=110&cntnt01returnid=15>

Ancient Teeth from Peru Show That Now-Extinct Monkeys Crossed the Atlantic from Africa

Four fossilized monkey teeth discovered deep in the Peruvian Amazon provide new evidence that more than one group of ancient primates journeyed across the Atlantic Ocean from Africa, according to new USC research just published in the journal *Science*. The teeth are from a newly discovered species belonging to an extinct family of African primates known as parapithecids. Researchers have named the extinct monkey *Ucayalipithecus perdita*. The name comes from Ucayali, the area of the Peruvian Amazon where the teeth were found, pithikos, the Greek word for monkey and perdita, the Latin word for lost. The fossils are about 34 million years old.



Ucayalipithecus perdita would have been very small, similar in size to a modern-day marmoset. Credit: Clement Horvath/Adobe Stock

The monkeys are believed to have made the more than 900-mile trip on floating rafts of vegetation that broke off from coastlines, possibly during storms. "This is a completely unique discovery," said Erik Seiffert, PhD, the study's lead author and Professor of Clinical Integrative Anatomical Sciences at Keck School of Medicine of USC. "It shows that in addition to the New World monkeys and a group of rodents known as caviomorphs – there is this third lineage of mammals that somehow made this very improbable transatlantic journey to get from Africa to South America."

Information and illustration from press release at

<http://www.sedgwickmuseum.org/index.php?mact=News,cntnt01,detail,0&cntnt01articleid=110&cntnt01returnid=15>

Denver Gem & Mineral Show Mini Report May 2020

The Denver Gem & Mineral Show is planned for September 18 - 20, 2020 at the Denver Mart, 451 E. 58th Avenue. The theme this year is fabulous fluorite! The Show Chair is George Daggett, who can be reached at geoddaggett@hotmail.com or 303-453-9651. George is always available for talking with club members regarding ideas about the show.

At the current time as everyone knows Covid-19 is impacting all of our lives. As of this writing Colorado is under a "safer at home" directive from our Governor. There is much uncertainty about the course of this pandemic. The Show Committee is closely monitoring the situation but is also continuing to plan that the show will take place in September as usual. Dealers, speakers and exhibitors are being confirmed for the show. Although clubs are not meeting, it is hoped that volunteers continue to be signed up to help at the show. For current information regarding the show, please contact your club representative. Here are the names and contact information for them: Colorado Mineral Society - Amber Brenzikofer 720-480-5234 or amberbrenzikofer@gmail.com; Flatirons Mineral Club - Gerry Naugle 303-591-2830 or gnaugle@earthlink.net; Friends of Mineralogy - Larry Havens 303-757-6577 or lwrnchavens@comcast.net; Denver Gem & Mineral Guild - Kathy Honda 303-315-7749 or katherine.honda@ucdenver.edu; Littleton Gem & Mineral Club - Lynette Warren 303-956-4634 or flywithle123@comcast.net; North Jeffco Gem & Mineral Club, Inc. - Ron Knoshaug 303-423-2923 or jrknoshaug@comcast.net; Mile Hi Rock and Mineral Society - Judy Knoshaug 303-423-2923 or jrknoshaug@comcast.net; Western Interior Paleontological Society - Nancy Kimber 303-470-6491 or nkk9960@hotmail.com.

Please remember that the show has so much to offer all of us. The opportunity to fully immerse ourselves in this wonderful hobby of rocks, minerals, fossils, and gems. There will be fantastic and colorful displays of the finest fluorite from renowned collectors, unusual and incredible specimens from the dealers, informative talks by notable speakers, experiences and laughter shared with friends, a visual extravaganza in the Fluorescent Room (fluorite is a fluorescent mineral), and so much more.

Hopefully there will still be opportunities for us all to go out this summer to collect and explore a little. But please stay safe, support and encourage each other so that when this is over, we will be able to gather again in friendship and hobby adventures.

Here are some pictures of fluorite to inspire you.

Respectfully submitted, Judy Knoshaug, Show Secretary



Other Rockhounding Events and Activities in the Area

Here are other rockhounding-related activities for both adults and juniors that you might be interested in. Thanks to Pete Modreski of the USGS for providing many of these notices.

These previously announced events have been cancelled because of the COVID-19 restrictions:

- **Colorado Mineral and Fossil Spring Show** on May 15-17
- **Colorado Chapter, Friends of Mineralogy Silent Auction** on May 16
- **Pikes Peak Gem & Mineral Show** on June 12-14

These events are still planned for this summer. Before attending any of these activities, please check that they have not been cancelled.

- **Thursday-Sunday, July 23-26**, is the **Fairplay Contin-Tail Gem, Mineral, and Jewelry Show** at Fairplay River Park. For details about the show and a map to the location, please see <https://www.rockandmineralshows.com/Search/ListingDetails/fairplay-gem-mineral-jewelry-show/990/false/false>.

- **Thursday-Sunday, August 6-9**, is the 2020 **Buena Vista Contin-Tail** outdoor gem and mineral show at Buena Vista Rodeo Grounds. This is Colorado's longtime famous and best attended tent and tailgate rock swap and show. Details at <https://bvrockshow.com/>.

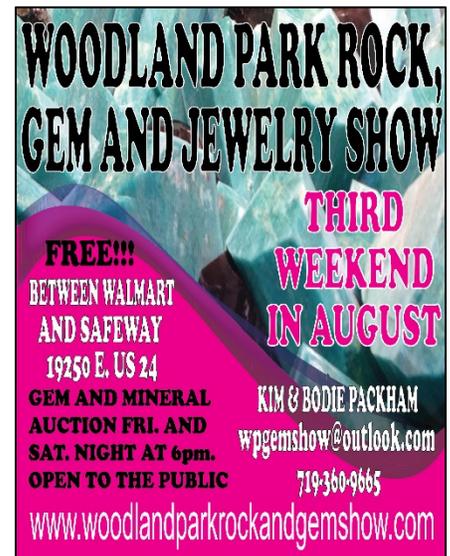


- **Friday-Sunday, August 14-16**, is the **Lake George Gem and Mineral Show**, sponsored by the Lake George Gem and Mineral Club, <https://www.lggmclub.org/>.

- **Thursday-Sunday, August 15-18**, is the **Woodland Park Rock, Gem and Jewelry Show**. Information can be found at http://woodlandparkrockandgemshow.com/?page_id=140.

The Western Museum of Mining and Industry is beginning to reopen with two activities. <https://www.wmmi.org>

- **Friday and Saturday, May 8 & 9**, the museum will open for "Outside, Hayride-Style" Tours! Hear about the Historic Reynolds Ranch House. See the Sealed Adit featured in Rick Riordan's "Percy Jackson" books, and experience the awe of the Yellow Jacket Stamp Mill! These tours will be FREE (donations accepted) Please bring your own mask, water bottle and dress for the weather. We will have a sanitation station. Space is limited. Bring a picnic lunch and enjoy our beautiful outdoor campus! Tour times are 10, 11, 1 and 2pm.



**WOODLAND PARK ROCK,
GEM AND JEWELRY SHOW**

**THIRD
WEEKEND
IN AUGUST**

FREE!!!
BETWEEN WALMART
AND SAFEWAY
19250 E. US 24

**GEM AND MINERAL
AUCTION FRI. AND
SAT. NIGHT AT 6pm.
OPEN TO THE PUBLIC**

KIM & BODIE PACKHAM
wpgemshow@outlook.com
719-360-9665

www.woodlandparkrockandgemshow.com

Monday, May 18 is the anticipated date to open the museum and resume inside Guided Tours. Be sure to check as we get closer to the opening date.

Officers, Directors, and Other Volunteers

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Jean Orr
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2nd Vice President: Field Trip Chair open

3rd Vice President: Annual Show Chair

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Members are needed!

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open

Facebook Chair

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Meeting Door Prize Chair

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Open

Dealer Chair

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Other Show Committee Members

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accatino@colorado.edu

Denver Show Club Table

open

A friendly reminder to pay your 2020 annual dues

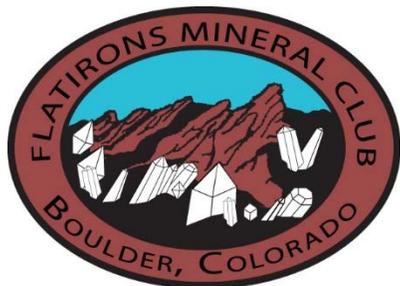
Dues are still only \$18 per individual and their immediate family. You can pay in two ways:

PAY Gerry Naugle, Treasurer and Membership Chair, at any FMC monthly meeting. Gerry is at or near the sign-in table when you enter the room for the monthly meetings.

SEND a check made to "Flatirons Mineral Club" or "FMC" to P.O. Box 3331, Boulder, CO, 80307. Please do not send cash in the mail.



Your 2020 dues must be received by January 20, 2020 in order to stay current with the member benefits, which include electronic club newsletters containing the information about club activities, club field trips, annual show opportunities, silent auction opportunities, the annual club summer picnic, and access to the club website. Your receipt is your new annual 2020 FMC membership card.



Flatirons Mineral Club

P.O. Box 3331
Boulder, CO 80307

2020 Ballot for FMC / RMFMS / AFMS Rockhound of the Year

The club membership each year honors an active member, or husband and wife team, who have contributed during the past year in promoting and furthering the FMC goals and the club's Mission Statement as outlined in the Club By-laws.

Since inception of this program in 2002, the annual FMC recipients have been Charlotte Morrison (2002), Paul & Martha Ralston (2003), Ray & Dorothy Horton (2004), John & Jeanne Hurst (2005), Ray & Joyce Gilbert (2006), Chuck & Jan Buda (2007), Cory Olin co-tie with Hallie & Dot Cook (2008), Shaula Lee (2009), Anita Colin co-tie with Gabi Accatino (2010), Mel & Charlotte Bourg (2011), Deborah Knox (2012), Ed Raines & Silvia Pettem (2013), Mike Smith (2014), Tally O'Donnell (2015), Dennis Gertenbach (2016), Trick Runions (2017), Jean Orr (2018), and Craig Hazelton in 2019.

Please list your 2020 nominee below. You can also vote by electronic means. All voting information is confidential. After tallying the results, all nominations are erased or shredded by Gerry Naugle. The FMC annual winners' names are sent to the RMFMS and AFMS offices for publication in their respective publications. Note: The annual FMC winner(s) are also inducted into the FMC Hall of Fame and their name(s) are engraved onto the club's Hall of Fame Plaque.

Your 2020 nomination is: _____

The person (or) persons should be honored because (brief summary):

Submitted by, please print _____

Please return this paper ballot to Gerry Naugle (use the letterhead address above) by **July 12th**. Easier, you can vote by leaving a message or text at 303-591-2830. Easiest, you can send an e-mail to gnaugle@earthlink.net

Voting results will be announced and the Hall of Fame Plaque displayed at the 2020 annual club picnic to be held on **Saturday, August 15th 2020** at the **Pavilion at Harlow Platts Park**, 1496 Gillespie Drive in Boulder.

Thanks for participating!



Flatirons Facets
P.O. Box 3331
Boulder, CO 80307-3331

First Class Mail

Upcoming Events

Thursday, May 14	Club meeting featuring Dr. Beth Simmons talking about The Belle Monte Iron Furnace in Marshall, Colorado	Virtual meeting on Zoom. See page 1 for details
Thursday, June 11	Members Collage club meeting, with short presentations by several members.	Location TBD
Saturday, August 15	Annual club picnic. See page 3	Harlow Platts Park in Boulder
Saturday, August 29	Rescheduled North Table Mountain field trip. See page 2	Golden, CO

As the Safer-at-Home restrictions are lifted, field trips and other activities will be announced to club members by email.