



# Flatirons Facets

Flatirons Mineral Club of Boulder County, Colorado  
Volume 60, Number 6

November-December, 2017

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.



## Fun Activities during November and December

Although the weather has curtailed field trips, there are plenty of fun club activities the last two months of the year.

### Towel Show, the Club Show-and-Tell - November 9

Did you find some great specimens on your field trips over the summer? Have you finished lapidary and jewelry projects this past year? If so, plan to share them with other club members on Thursday, November 9, at our annual club Towel Show. All ages should come and join the fun. See page 2 for details.



A beautiful obsidian display from last year

### Rocks and Rails, Our Annual Club Show - December 8-10



A scene for last year's show

Every December the Flatirons Mineral Club teams up with the Boulder Model Railroad Club to bring a weekend of rocks, minerals, and model trains to the community! Sounds crazy but it works. Come and enjoy the show, where you can see and purchase beautiful specimens, and enjoy member displays, kid's activities, and model trains. **And, volunteers make it happen!** See page 3 for more information about the show and how you can help.

### Holiday Party and Gift Exchange – December 14

The club show is over and the holidays are fast approaching. Our annual holiday party is a time to relax and enjoy the season with other club members. There are lots of goodies to eat, plus the gift exchange. It's fun for club members of all ages. Details are on page 3.

### Just a Reminder That It Is Time to Pay Your 2018 Club Dues

Annual dues are still only \$18 for an individual or family. You can pay your dues at any club meeting, or by sending your payment to P.O. Box 3331, Boulder, CO, 80307.

## President's Message



Hello Everyone!

If you know me well you know that I'm sad to see the summer and field trip season end! I hope everyone had a great summer.

I want to thank all of our wonderful field trip leaders who volunteered this summer: Dennis, John, Jason, Damon, Tally, Kevin, Brian, Donald, Anita, Charlotte, and Craig. If you have a field trip idea or would like to lead a trip in the future, please, contact the Field Trips Committee listed on page 20.

I also want to thank the current board members for their volunteer work for the club. Every single one of them signed up for another term! What a great group of folks! Please thank them yourself.

We do have several open positions within the club. We need your help, so the club runs smoothly and does not overburden the individuals who have already taken on responsibilities. Remember the old adage, "Many hands make light work." I'm asking you to help our little community. Not all the tasks require being on the board. Please review page 20 at the end of this newsletter to see which tasks are "open" and contact me at [accatino@colorado.edu](mailto:accatino@colorado.edu) to become a more active member of our wonderful club.

See you at the Towel Show! Gabi

### Come and Have Fun at the Towel Show!

If you're new to the club, you're probably asking yourself, "What is a Towel Show?" Each year, members bring specimens they have collected, as well as lapidary and jewelry work they have completed, to show the other club members. The specimens are displayed on a towel, hence "The Towel Show".

Prizes are awarded to both adults and juniors in the following categories: personal field trip, club field trip, lapidary/jewelry, best mineral, best fossil, best ugly rock, and even best towel. Everyone votes for their favorites and Barnes and Noble gift cards are presented to the first and second place winners in each category. So, pick out some of your best specimens in as many categories as you like, make labels for them, and bring them to display on your towel.

The Towel Show will start at 7:00 pm in the **Left Hand Grange in Niwot** (195 2nd Avenue, Niwot, 80544). If you are bringing items to show, plan to arrive 10 minutes early to set up your display. Also, bring some snacks to share with everyone.

Come and join in the fun of displaying your special finds and creations and enjoying those of other members.



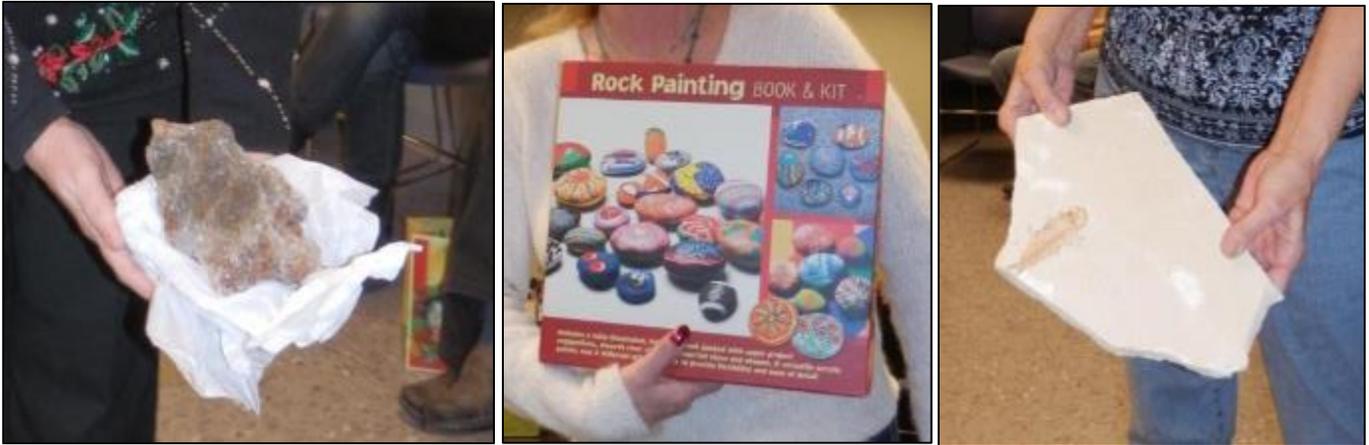
The Jr. Geologists getting ready for this year's Towel Show

## Holiday Party – December 14

To finish the year, come and join the fun at the annual Holiday Party on Thursday, December 14. It is a time to share snacks and stories with one another. So bring some snacks to share with others.

One of the highlights of the evening is the annual gift exchange. Bring a wrapped \$5 to \$10 mineral-related gift. The gift exchange is great fun, with gifts exchanging hands throughout the evening. Members young and old will have a great time and you never know what gift you will go home with.

The party starts at 7:00 pm in the North Community Room at Frasier Meadows, 350 Ponca Place, Boulder, CO 80303. Just ask the receptionist for directions to the room when you come into the building.



Some of the gifts from previous holiday parties

## Our December Show – Rocks & Rails – December 8-10

Rocks & Rails, the club's annual Gem and Mineral Show is on December 8-10 at the Boulder County Fairgrounds in Longmont, 10 am to 5 pm each day. Adult admission is \$5, children 12 and under are free with a paid adult. Our show is run in conjunction with the Boulder Model Railroad Club, so you can enjoy lots of rocks, minerals, and fossils, plus model trains in the other half of the building. The show features gem and mineral dealers, exhibits, speakers, classes, grab bags, and children's activities such as mineral identification games, a dig site, rock and mineral polishing, and more.

Club members can participate in many ways. The show is planned and run by club volunteers; see the next page to find out how you can help. There will be eight display cases to showcase your special specimens or lapidary work. Details on how to sign up for a display case on are page 5. Club members can also sell their own creations or rock collections at the



Prospective buyers checking out specimens at Craig Hazelton's table

Artisan Sale. Information about selling at the Club Artisan's Table is on page 5. Also, specimens are needed for the Kids Corner; we have a home for those specimens you collected years ago but no longer want. More information on donating specimens can be found on page 6.

## The Show Committee

The Show Committee oversees the show each year. There is still time to assist the committee with all of the last minute details that are needed for the show. Contact Ray Gilbert at [hoss@q.com](mailto:hoss@q.com) to find out how you can help or come to the Show Committee Meeting on November 16 at 7 pm at the Clover Building at the Boulder County Fairgrounds in Longmont.

## Volunteer at the Show

This Show runs on VOLUNTEERS. We need volunteer help from set-up on Wednesday at 10 am until breakdown Sunday night. This is your club and we need your help to put on the show. From kids to grandparents, we need you all! **Volunteers get into the show for free all weekend!**

### Volunteer at the show on Friday through Sunday

Help is needed for SECURITY and in the KIDS CORNER, perhaps running a game, helping with the rock polishing or selling grab bags, or chatting about the club with visitors. You don't have to stand all the time, we have sitting positions too. Contact Char at [rckhnd4252@gmail.com](mailto:rckhnd4252@gmail.com) to sign to help.



Rock polishing is always popular at the show

# ROCKS & RAILS

## December 8-10 10am – 5pm

**Adults \$5 ::: Children 12 & Under Free with paid Adult**  
Discount 3-day admission pass available on Friday

<p style="text-align: center;"><b>Boulder Model Railroad Club</b> 40th Annual</p> <h3 style="text-align: center;">Model Railroad Exposition</h3> <p>Come one, come all, and enjoy the Boulder Model Railroad Club (BMRC) Exposition where you can see many different Scale and Toy Train Layouts for the young and old alike. The show will also have many displays of Model Train related items to both teach and entertain everyone. This includes many vendor tables where you can purchase railroad-related items just in time for the Holidays.</p> <div style="text-align: center;"> <a href="http://bouldermodelrailroadclub.org">bouldermodelrailroadclub.org</a></div>	<p style="text-align: center;"><b>Flatirons Mineral Club</b> 2017 Annual</p> <h3 style="text-align: center;">Rock &amp; Mineral Show</h3> <p>Gem and mineral dealers, exhibits, speakers, grab bags, rocks, children's activities, kids' wheel, dig site, fossils, meteorites, tools jewelry, classes, and more! Bring your treasures for free mineral identification. Demonstrations include polishing rocks using lapidary equipment, gold panning, and silversmithing.</p> <div style="text-align: center;"> <a href="http://flatironsmineralclub.org">flatironsmineralclub.org</a></div>
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ATM & Food Service Available at the Show

## BOULDER COUNTY FAIRGROUNDS LONGMONT

MAIN EXHIBIT BUILDING 9595 Nelson Road Longmont, CO 80501

Bad Weather? Call 303-591-2830 to see if we're open

 Find us on Facebook

### Volunteer for Show Set-up and Tear-down

Four or five people are needed to help with show setup on Wednesday December 6 at the Longmont fairgrounds from 10 am till about 2 pm. We will be setting up tables, chairs and electrical cables, so this is mildly physical labor. We also need another 5 to 6 people on Sunday evening December 13<sup>th</sup> from 5:30 till around 8 pm to help undo what we put together on Wednesday. On Sunday evening and Wednesday noon the club will provide pizza and soda for all who volunteer to help. If you can help with either or both times please contact Tally at [phantom@indra.com](mailto:phantom@indra.com).

Everyone's help is needed to make the show successful.

## FMC December Show Club Artisan Sale Table 2017

This year we are continuing the opportunity for club members who are not dealers to sell their own creations or rock collections at our December show in Longmont. This can include bulk rocks, slabs, jewelry, and other items that fit the following description from our dealer contract: *Dealers will only be permitted to display or sell materials or equipment directly related to the Earth Sciences, Rocks, Minerals, Fossils, Lapidary, Gems, Jewelry, Indian Artifacts, or printed, film or video materials associated with any of these fields.*

We will provide a set of tables at the show designated for this purpose and we are calling it the "FMC Club Artisan Table". You are not required to get either a Colorado Multiple Events License and/or a Tax Resale number if you do not anticipate selling over \$1,000 worth of merchandise.



Our first Artisan Sale Table

A few ground rules for participation are:

1. This is being offered on a first come first served basis so please don't wait too long to register if you are interested.
2. We are limiting space to each individual to anywhere between 3 and 6 feet inclusive in one foot increments. When you contact me please let me know the number of linear feet you are requesting so I can make sure we have the room available. Individuals may combine for more space or to help with staffing.
3. You must sign up by Thursday December 7<sup>th</sup>. The price for table space is \$10 per foot and you will need to pay for your space by Friday December 8<sup>th</sup>, the first day of the show. You may setup your space either on Thursday December 7<sup>th</sup> between 7:30am and 9pm or on Friday morning between 7:30 and 10:00.
4. All items must be clearly marked as to price either individually or in groups (which you can then negotiate as you wish).
5. The "FMC Club Artisan Table" area must be staffed at all times to properly register sales and for security purposes.

To this end it is the obligation of all participants in this offering to register for one or more time slots to oversee this area. Once I have a list of the people who will be participating I will then coordinate getting the staffing addressed.

If you would like to join this endeavor, please contact me at [phantom@indra.com](mailto:phantom@indra.com) to register and I will send you a confirmation.

Tally

### Display Your Best

Returning this year are display cases for our members to showcase their rocks, minerals, fossils, and lapidary work. The display cases are from the Denver Show and feature a glass front, overhead



A display case from last year's show

lighting, and are secured. The display cases will be set up for you. All you need to do is bring your specimens, labels, and liners on Thursday, December 7, and fill your case. Plan to take down your case on Sunday at 5 pm.

The display cases are always a great hit with the public and help to interest people in joining our club. To reserve a display case, please contact Dennis Gertenbach at [gertenbach@comcast.net](mailto:gertenbach@comcast.net).

## Specimens needed for the Rocks & Rails Show

It is time for you to go through your rock collections and donate to the KIDS CORNER for our Rock and Mineral show. We need donations for three areas:

1. SMALLER, POLISHABLE SPECIMENS for the kids to use on the Genie. For some kids, this is the highlight of the show. They come back each year to polish a new rock and it is amazing to see these kids get so excited when they do it. They are so serious and intense while doing the actual polishing; they could do this over and over all day. It is a blast to work with them on this.
2. For the DIG SITE, we need COLORFUL, SPARKLEY SPECIMENS that are about the size of a ping pong ball up to a tennis ball. FOSSIL WOOD that the kids can actually tell is wood are favorites, also. Here you have a chance to talk to the parents about the club, tell the kids about what they are digging up and really interact with our visitors. The kids will dig up all the rocks and shells, line up their favorites and then pick from the ones they want to take home with them. Of course, if you are smart, you will have them re-bury the rejects so you don't have to.
3. We have the WHEEL OF ROCKS, ELECTRIC MATCHING, and a new game, PIC-A-DINO. These all need SMALLER SPECIMENS, about the size of a quarter, for prizes. Some examples are small pieces of calcite, Apache tears, quartz crystals, fossils, wood, etc. We like to be able to fill a container with the same type of specimen for the kids to choose from.

Of course, if you have rocks and minerals you aren't sure of, bring them anyway. Some we can cut down and use while others may end up in a pothole. To DONATE your specimens, contact Charlotte at [rckhnd4252@gmail.com](mailto:rckhnd4252@gmail.com).

## FMC Members Win Awards for Their Newsletter Contributions

Each year, articles, photos, and other contributions are entered into the Rocky Mountain Federation of Mineralogical Societies' annual bulletin contest. The top two winners from this competition are then entered in the national contest of the American Federation of Mineralogical Society. This year, two entries from our club won national awards. The two recipients were presented their plaques at last month's meeting by Gabi Accatino, club president.

Second place for Drawn Features was awarded to Andrew Caballero for his water color of the Tepee Buttes, where we collected fossils at last year's field trip. Andrew was 13 years old when he created this painting.

Third place for New Editor was awarded to Dennis Gertenbach. Dennis became our newsletter editor in November, 2016.

Congratulations to both of these club members for achieving these high national honors.

Andrew Caballero's water color of the Tepee Buttes





Andrew Caballero and Dennis Gertenbach receiving their national awards for newsletter contributions.

Photos by Jeff Kruse

Consider submitting an article about a trip you went on, a special mineral or fossil, or other geological item of interest. Photos and artwork are also appreciated by our club members. Contributions can be sent to Dennis at [gertenbach@comcast.net](mailto:gertenbach@comcast.net).

## Crawford Fairburn Agate Field Trip Report

Brian Walko, Field Trip Leader

On the weekend of October 14 and 15<sup>th</sup>, a group of hardy FMC and CMS members braved the weather elements to go hunting for the elusive Fairburn agate in the famous Agate Beds of NW Nebraska. We also searched for other members of the microcrystalline quartz family (chert, jasper, & chalcedony) and petrified wood.

For years, geologists have theorized about the origin of these agates. The popular belief is they were formed in the Black Hills and nearby Wyoming mountains during the Laramide orogeny between 70 to 40 million years ago (Jurassic to Cretaceous periods). Then they were transported by rivers as the mountains eroded to the agates' present location on the western high plains of Nebraska and South Dakota.

New theories have been proposed these agates where formed in situ. As the Rocky Mountains were being formed, the Western Interior Seaway was retreating. Add the volcanism occurring in western U.S., large amounts of silica-rich ash was deposited on the region. The silica permeated from the Chadron Formation into the upper Pierre Shale Formation creating an environment conducive to the formation of agates. Supporting this theory are the findings of agatized Cretaceous marine shells, mostly brachiopods and corals.



Agatized brachiopod



Hunting the fossil beds

Saturday the temperature was in the mid 40's with winds 20 mph gusting to 30 mph. Mid-day rain squalls pounded us. But, this did not discourage the agate hunters.



Jeff Peacock with a find

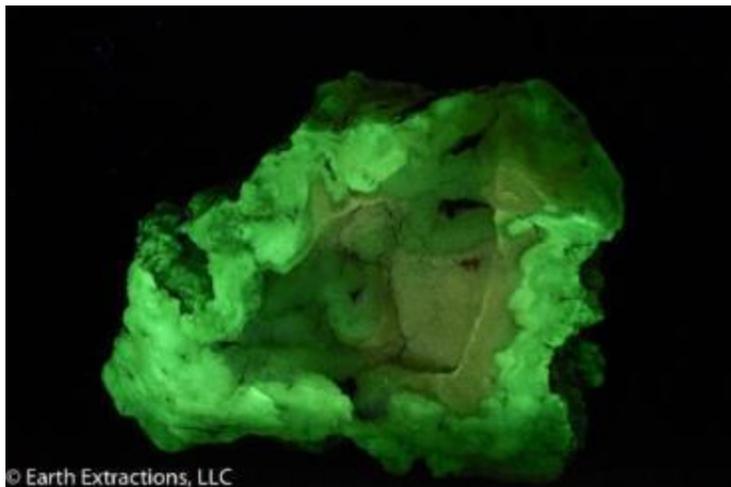


Brad Willkomm, Annie the Rockhound, Kevin Notheis, Tim Ruske



Camp Toadstool

Saturday night a few hardy souls camped at Toadstool Park and were treated to a nighttime fluorescent chalcedony hunt.



Fluorescent chalcedony

Sunday morning, the cold front past, and we had a perfect day to finish agate hunting, including discovering new areas to search next year.



Gabi Accatino, Tim Ruske, Anita Landess, Kevin Notheis



Millions of agates for next year



Fairburn agate

### Flat Tops Field Trip

Dennis Gertenbach and Gabi Accatino, Field Trip Leaders

On September 2 and 3, our club was joined by the Colorado Mineral Society for the weekend on the Flat Tops north of Glenwood Canyon. The area is a wonderful place to visit later in the summer, with open meadows full of wildflowers, dotted with lakes. And, it is a fun place to collect both minerals and fossils.

Our first stop on this beautiful weekend was a location to collect goethite pseudomorphs after pyrite. A pseudomorph is one mineral that was formed from another mineral, but keeps the shape of the original mineral. In this case, the brown goethite retains the shape of cubic pyrite crystals, even showing the striations in the original crystals.



Searching for goethite pseudomorphs after pyrite



Nice collection of pseudomorphs found on the trip

The location is in the open, and one just looks on the ground for the pseudomorphs that have weathered out of the limestone. As can be seen in the photo, with a little looking, one can find a number of nice specimens. Dennis announced that he would find a “one incher,” a cube that was one inch across. And, he actually found one. A few Mississippian age (323-354 million year old) brachiopods and corals were also found in the Leadville Limestone outcrops in the area.



The “one incher” Dennis found that day



Mississippian age colonial coral in the Leadville Limestone

When you are on the Flat Tops (elevation about 10,500 feet), a must-see stop is Deep Creek Canyon. The steep canyon formed as Deep Creek cut through the Paleozoic sediments, exposing nearly 100 million years of rock. With some of the aspens beginning to change color, the views were magnificent.



Our next stop was to a quarry in the Devonian age (354-417 million years old) Dyer Formation. This formation contains a wide variety of marine fossils from an ancient sea. Brachiopods, bryozoans, gastropods (snails), orthocone nautiluses, and other interesting fossils were found.

Deep Creek with the aspens beginning to change color



The quarry where a wide variety of Devonian age fossils



Working to remove a large fossil from the rock



Two nice bryozoan fossils. Bryozoa are small animals that formed colonies, similar to coral. Each animal extended tentacles to capture food that floated by.

A nice orthocone nautilus found in the Dyer Formation quarry



On Sunday, the group split. Several went to collect more fossils from other Dyer Formation outcrops. The rest continued to search for pseudomorphs, hoping to find that “one incher.”

## Jr. Geologists Activities

We kicked off our monthly meetings October 18. In preparation for the club Towel Show, the Jr. Geologists brought specimens they acquired this past year, along with a towel, for a show and tell. Everyone enjoyed showing off their specimens.

We also began polishing another batch of rocks in the rock tumbler. After learning about the steps needed to make polished rocks, the juniors selected rocks to polish. Next they added coarse grit plus water and sealed the container. The rocks will be tumbled for a week before the next meeting, where the kids can see the progress we have made.



The Jr. Geologists showing their specimens in preparation of the Towel Show

After an introduction of fluorescent minerals in October, we will learn more about these fascinating minerals at our November 15 meeting as we earn the Fluorescent Minerals Badge.

The Jr. Geologists program is open to all Flatirons Mineral Club families. Each month we learn about different aspects of geology, minerals, and fossils, plus earn badges for different earth science activities. Meetings are on the third Wednesday of most months 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 Gertenbach at [gertenbach@comcast.net](mailto:gertenbach@comcast.net) or 303-709-8218.



Selecting rocks to polish in the rock tumbler

## Jr. Geologists Dig for Dinosaur Bones

Dennis Gertenbach

In early September, the Jr. Geologists traveled to Como Bluff, Wyoming, to dig dinosaur bones and teeth at the Nail Quarry. Como Bluff is the site of the famous Bone Wars of the late 1800s and still produces dinosaur bones today.



The Fossil Cabin by Como Bluff, made entirely of dinosaur bones were found

Our first stop was the Fossil Cabin, south of Medicine Bow. This former museum is constructed entirely of dinosaur bones and is a fun place to visit.

Next we traveled to the Nail Quarry. Anita Colin, quarry manager, gave the kids and parents an overview of the dinosaurs that have been found at the quarry. Then we went to the quarry for an orientation of how to carefully locate and excavate bones and teeth from the working face of the quarry. The fossils are in a clay matrix, so care is needed to consolidate any bones with adhesive before excavating. Other quarry jobs, especially the ever popular mucking (shoveling and removing debris), were handled by the kids.



The Nail Quarry on the side of Como Bluff



Anita Collin talking about the different dinosaurs that have been found at the quarry



The Jr. Geologists families working at the quarry, searching for fossil bones and teeth



Jack and Loraine O'Keefe working with Anita at the quarry

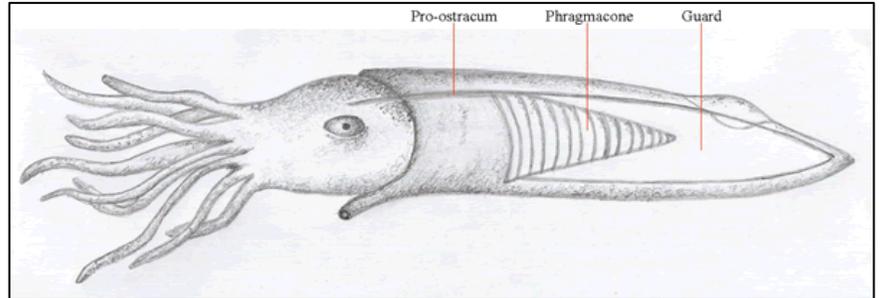


Using the tram to remove loose debris from the quarry face



An *Allosaurus* tooth found on the trip

Later in the afternoon, the Jr. Geologists families hiked to a location in the Jurassic Sundance Formation from a period when this area was covered by an ocean. The goal was fossils from belemnites, squid-like animals with an internal shell called a phragmacone. This shell preserves as bullet shaped fossils



Drawing of a belemnite from

<https://ukfossils.co.uk/2012/08/28/an-introduction-to-belemnites/>



Meilena and Liam collecting belemnites



Belemnites from the Sundance Formation

### Club Lapidary Equipment Available

The club has 3 locations for our lapidary equipment that club members can use.

To use a Genie, Pixie, water saw, and flat lap, please contact Melanie Seaman at 561-573-3942 or [mseaman136@gmail.com](mailto:mseaman136@gmail.com) to schedule when to come and use the equipment at her house.

One of our big saws is at Markus Raschke's house. Call him at 303-499-9157 to arrange a time to use the saw.

Another saw is at Terry O'Donnell's house. His email address is [whee0297@msn.com](mailto:whee0297@msn.com).



## Get Your Very Own Flatirons Mineral Club Baseball Cap

The club now has baseball caps in a variety of colors for sale, sporting the new Flatirons Mineral Club logo. Buy them at any meeting. The member price is \$10 each, while the non-member price is \$15.

## Member Nametags

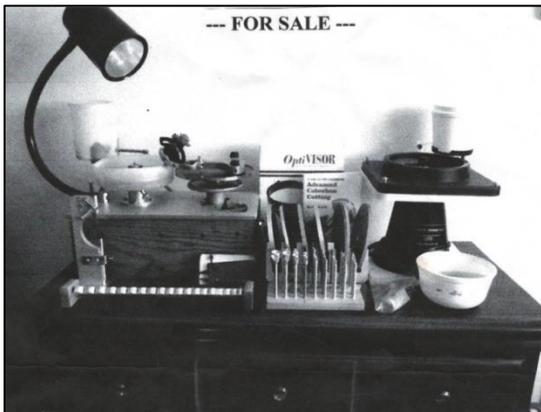
Would you like a Flatirons Mineral Club name tag to wear at club events and field trips? The club places orders several times a year for members.

Please log onto our website and choose the "Request a Nametag" link in the Members Area. Add your name to the list and a name tag will be ordered for you. The cost is \$5 when you receive it.



Example of a club name tag

## Equipment for Sale



Carl Kunze, long-time member of the North Jeffco club, has some equipment for sale. These include:

- Raytech-Shaw faceting machine with all accessories
- Hi-Tech cabochon cutting machine with all accessories

Carl is asking for \$600 for all. This price for all of this equipment and the accessories is really a bargain. You can contact Carl Kunz at 303-921-1513.

## Fossils in the News

Dennis Gertenbach

### Duck-Billed Dinosaurs Didn't Just Eat Plants

University of Boulder Associate Professor Karen Chin has made a startling discovery. Hadrosaurs, plant eating dinosaurs from the Cretaceous Period, also occasionally dined on crustaceans. In a study published in the journal *Scientific Reports*, Dr. Chin and co-authors reported fragments of crustaceans within decaying wood found in coprolites from the Grand Staircase-Escalante National Monument in southern Utah. Coprolites are fossilized poop that can give scientists a glimpse of what ancient animals ate. As hadrosaurs are large plant-eating dinosaurs, finding animal remains in their poop was quite unexpected. Crustacean shells turned up in at least 10 coprolite samples from three different

layers over a distance of about 13 miles. Because the crustaceans, relatives to modern crabs, lobsters, and shrimp, were at least 2 inches long, the dinosaurs probably ate them on purpose. Chin thinks their ingestion by the dinosaurs may have been necessary for providing valuable protein and calcium, , perhaps tied to breeding and egg-laying activities.



Hadrosaurs were one of the most common dinosaurs in the Cretaceous, growing up to 30 feet long and weighing up to three tons. Some paleontologists believe they roamed in herds and nurtured their young.

Information from <http://www.colorado.edu/today/2017/09/21/big-herbivorous-dinosaurs-ate-crustaceans-side-dish>

Dark crustacean shell fragment embedded in coprolite, or fossilized dinosaur feces. Credit: Karen Chin

### Kangaroos with Fangs Roamed Australia

The Riversleigh World Heritage Area in northern Queensland, as predominately covered in rain forest 25 million years ago. At this time both fanged kangaroos and ancestors of modern kangaroos browsed on leaves, scurrying (not hopping) through the forest. Recent evidence, reported by University of Queensland PhD student recently reported in the journal *Palaeogeography, Palaeoclimatology, Palaeoecology*, that fanged kangaroos might have lived at least five million years longer than previously thought, becoming extinct about 15 million years ago. The study reported that the species *Balbaroo fangaroo* might have competed for resources with ancestors of modern kangaroos. The research involved analyzing fossils from the Queensland Museum.

*Balbaroo fangaroo* was about the size of a small wallaby. Just what their curved fangs were used for is not known; some have suggested they were used to attract mates, and may have been used by mails for combat. Butler stated that understanding when and why kangaroos went extinct in the past could help with understanding what drove the extinction of such animals.

Information from <https://www.sciencedaily.com/releases/2017/10/171016092719.htm>

### The Last Meal of a 200 Million Year Old Ichthyosaur

A remarkable fossil from the collections of the Lapworth Museum of Geology, University of Birmingham, England, has revealed what a newborn marine reptile, *Ichthyosaurus communis*, ate shortly before dying – a prehistoric squid. Scientists have identified the smallest and youngest specimen of *Ichthyosaurus communis* ever found, with a total length of about 28 inches. And, as reported in *Historical Biology*, it has the remains of the prehistoric squid preserved in its stomach. The University of Manchester palaeontologist and ichthyosaur expert, Dean Lomax, said: "It is amazing to think we know what a creature that is nearly 200 million years old ate for its last meal. We found many tiny hook-like structures preserved between the ribs. These are from the arms of prehistoric squid. So, we know this animal's last meal before it died was squid."



The canine teeth of the *Balbaroo*, an extinct species of kangaroo, formed long, curved fangs. Credit: Kaylene Butler



The perfect newborn ichthyosaur is on display in the recently refurbished Lapworth Museum of Geology, University of Birmingham.

Information from

<https://www.sciencedaily.com/releases/2017/10/171003093944.htm>

*Ichthyosaurus communis* is the most common species of ichthyosaur from the Lower Lias of England. Credit: Nobu Tamura

### Monstrous Crocodile a Top Predator in the Jurassic Seas of Britain

A newly identified predator, nicknamed the Melksham Monster after the English town where it was found, was another prehistoric squid eater during the time ichthyosaurs swam in the Jurassic oceans in Europe. *Ieldraan melkshamensis*, a distant relative of modern crocodiles, were a 10 foot long animal that lived in the warm, shallow seas that covered much of what is now Europe. With powerful jaws and big, serrated teeth, it fed on large prey, such as prehistoric squid 160 million years ago.

Paleontologists at the University of Edinburgh discovered this new species by studying a fossil that had been held in the Natural History Museum since 1875. They reported this new species in the *Journal of Systematic Palaeontology* based on distinctive features of its skull, lower jaw and, in particular, its teeth. This discovery pushes back the evolution of this family of crocodiles by at least 10 million years. To learn more about this discovery, see the video at <https://www.youtube.com/watch?v=734mXb6vyq0>.



The Melksham Monster belongs to the same family of marine crocodiles shown in this artist's impression of *Plesiosuchus manselii*. Credit: Fabio Manucci

Information from [https://www.eurekalert.org/pub\\_releases/2017-10/uoecmf100217.php](https://www.eurekalert.org/pub_releases/2017-10/uoecmf100217.php)

WHY WASN'T THE  
GEOLOGIST HUNGRY?

THEY'D  
LOST  
THEIR  
APATITE.



## Other Rockhounding Events and Activities in the Area

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

**Friday, Nov. 10, 3:00 p.m.**, Raymond Rogers (Macalester College), **Twenty Years of Paleontological Adventure & Discovery on the Great Red Island, Madagascar**. Denver Museum of Nature & Science Earth Science Colloquium Series; VIP Room, DMNS; all are welcome, and museum admission is not required to attend.

**Saturday, Nov. 11, Silent Auction**, held by the **Littleton Gem and Mineral Club**; Columbine Hills Church, 9700 Old Coal Mine Ave, Littleton CO. Auction begins at 12 noon, verbal auction at 1 p.m., auction is completed and checkout of purchases begins at 3:30 p.m. All are welcome; complimentary refreshments.

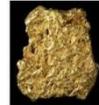
**Saturday-Sunday, Nov. 11-12, 38<sup>th</sup> annual New Mexico Mineral Symposium**, at New Mexico Institute of Mining & Technology, Socorro, NM; see <https://geoinfo.nmt.edu/museum/minsymp/home.cfml>.

**Thursday, Nov. 16, 7:00 p.m.**, **Colorado Scientific Society** November meeting, Simone Marchi, Southwest Research Institute, **The Early Evolution of Earth—Fire from Above, Fire from Below**, at Shepherd of the Hills Church, 11500 W. 20th Ave., Lakewood. All are welcome.

**Friday-Sunday, Nov. 17-19, Denver Area Mineral Dealers Show** at the Jefferson County Fairgrounds, Exhibit Halls, 15200 W. 6th Ave., Golden, CO. Hours: Friday 10 am - 5 pm, Saturday 10 am - 6 pm, Sunday 11 am - 4 pm. For information call 303-993-6685, 303-986-3647, or 303-660-9564.

**Saturday, November 11, 2017**

### Littleton Gem & Mineral Club Silent Auction



Columbine Hills Church,  
9700 Old Coal Mine Avenue,  
Littleton, CO 80123



**Seller set up starts at 11 AM,  
Silent auction starts at Noon,  
Verbal auction starts at 1 pm;  
Checkout starts at 3:30 pm**

Bring your minerals, gems, jewelry, fossils, books, and equipment to sell. Non-club members are limited to 2 flats. Club retains 20% commission. Payment is by cash or check only.

Email Lesley Sebol at [Lesleysebol@gmail.com](mailto:Lesleysebol@gmail.com) to pre-obtain a seller/buyer number or get it at the door.



**GEM & MINERAL SHOW**  
**NOVEMBER 17 -19, 2017**  
Jefferson County Fairgrounds

*Public  
Welcome*

*Free  
Admission*

*Free  
Parking*

*Sponsored by Denver Area Mineral Dealers*

## Denver Gem & Mineral Show 2017 - Winners in the Special Competitions

These individuals and organizations were recognized as the best displays at the Denver Gem and Mineral Show in September.

**Richard M. Pearl Award:** Phil Gregory (Rhodochrosite, Park County, Colorado)

### Best of Species Trophy:

**Thumbnail** - Larry Havens (Stephanite, Bolivia)

**Toenail** - Jack Halpern (Gold, Eagles Nest Mine, California)

**Miniature** - Jack Halpern (Gold, Venezuela)

**Cabinet** - Jack Halpern (Silver, Kongsberg, Norway)

**Best of Colorado** - Judy and Ron Knoshaug (Gold, Breckenridge)

**Best Fossil:** Jim Hooten (Devonian brachiopod, Garfield County, Colorado)

**Prospector Trophy:** Randal Kokkinen (Smoky quartz and amazonite, Colorado)

**Junior Prospector Trophy:** Hunter Kokkinen (Amazonite and quartz, Colorado)

**C. E. Withers Award:** John Warn (Himalaya Mine Tourmalines)

### Winners of Competitive Exhibits:

**Donna Chirside Memorial Museum Trophy:** Museum of Western Mining and Industry, Colorado Springs, Colorado

### Individual Competitive Case Trophies:

**Thumbnails of One Mineral Species** - Barbara Sky (Masters, Barites)

**Worldwide Thumbnails** - Nick North (Masters)

**Worldwide Miniatures** - Ron and Judy Knoshaug (Masters)

**Open Minerals** - Larry and Denise Rossum (Advanced, Barites, Elk Creek, South Dakota)

**Specialized Fossils** - Evan Walsh (Novice, Cretaceous Theropod Dinosaurs)

**Educational, General Audience, Minerals** - Erin Delventhal (Novice, "Naming Minerals")

**Educational, Informed Audience, Other** - Dale Plume (Novice, "Complex Gold & Silver Ores of Colorado")

**Educational, General Audience, Other** - Dale Gann (Novice, "Gold and Silver Ore to Coins and Bullion")

**Club Prospector Trophy** - Colorado Mineral Society



# Officers, Directors, and Other Volunteers

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open

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## Club Hospitality Chair

open

## Facebook Chair

Anita Colin, 720-556-9889  
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### Program Chair

open

### Dealer Chairs

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### Other Show Committee Members

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### Meeting Door Prize Chair

Brad Willkomm, 303 249-8877  
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### Denver Show Club Table

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### Mineral Specimens Chair

Don Mock  
[donmock@hotmail.com](mailto:donmock@hotmail.com)

## A friendly reminder to pay your 2018 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 2018 dues must be received by January 20th, 2018 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 2018 FMC membership card.



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

## First Class Mail

### *Upcoming Events*

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Monday, November 6, at 7:00 pm	Show Committee meeting with the model train club	Clover building, Boulder County Fairgrounds, Longmont
Thursday, November 9, at 7:00 pm	Towel Show, see page 2	Niwot Grange
Wednesday, November 15, at 6:30 pm	Jr. Geologists meeting	Meadows Branch Library
Thursday, November 16, at 7:00 pm	Show Committee meeting	Clover building, Boulder County Fairgrounds, Longmont
Wednesday and Thursday, December 6 and 7	Set up for Rocks and Rails	Boulder County Fairgrounds, Longmont
Friday through Sunday, December 8-10	Rocks and Rails, the club show	Boulder County Fairgrounds, Longmont
Thursday, December 14, and 7:00 pm	Holiday Party and Gift Exchange	Frasier Meadows