

Flatirons Facets

Flatirons Mineral Club of Boulder County, Colorado
Volume 59, Number 5

September-October, 2016

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.



Come to the Denver Gem and Mineral Show September 16-18, 2016

This year's show will feature Minerals of Africa, land of fabulously stunning minerals and fossils. Of course, there will be minerals, fossils, and lapidary work from around the globe. The show will be at the Denver Mart, 451 E. 58th Ave, Denver, CO 80216. Show hours are Friday 9 am to 6 pm, Saturday 10 am to 6 pm, and Sunday 10 am to 5 pm.

Admission to the show is

Children: 0 - 12 years... Free!

Teens: 13 - 18 years... \$4.00

Adults: 19 - 64 years... \$6.00

Seniors: 65 - 120+... \$4.00

Parking at the Denver Mart is free.

What is there to see and do at the show?

There are lots of fun hands-on activities from kids, plus hundreds of dealers with must-have specimens and jewelry for sale. Turn to pages 3 and 4 for a list of activities and speakers.

VOLUNTEERS ARE NEEDED!!

Spend a couple of hours at the club table, teaching children about rocks and minerals and educating the public about the Flatirons Mineral Club.

Help at the show with admissions, security, selling grab bags and posters, show set-up, show take-down, hospitality room, and volunteer check-in.

Page 3 has more information about volunteer opportunities at the show. **Volunteers get into the show free.**



Diopside from Democratic Republic of Congo (Photo by Weinrich Minerals)



President's Message



Hello Rockhounds!

I hope that you are having a fun summer and have been able to go on some of our field trips. I got to go on the two Boulder County trips that Brian Walko led. His enthusiasm for gold and silver prospecting is wonderful to experience. And what was great was to be able to go on trips in our own backyard right here on our Front Range!

September brings the Denver Gem and Mineral Show for which the Flatirons Mineral Club is a participating club. The event is completely volunteer-run and that means that we need your help. Please, if you haven't signed-up for a shift, do so now! Contact Gerry Naugle to choose a shift. You will have free admission for the entire weekend in exchange for working one shift. Included with that is free food at the Hospitality Room and a free dinner Saturday night. Remember, the show just can't happen without the volunteers.

Have a great fall and get out there for our fall field trips! Gabi

Here is What's Coming in September and October

Field Trips: This year's field trips have been fantastic, and there are still several more planned before the snow flies. These trips are listed on page 4.

Denver Gem and Mineral Show: Come to the show; it is the second largest show in the country. Volunteer at the club table or to help with the show. Read about the show on pages 1, 3 and 4.

Club Meetings: We have two great meetings scheduled for this fall. On **September 8**, Gerry Naugle is giving a talk on meteorites. Next month on **October 13**, Annie Zaino is speaking on collecting in Antarctica. Club meetings are on the second Thursday of each month at Frasier Meadows, 350 Ponca Place, Boulder, CO 80303, starting at 7:00 pm.

Jr. Geologists: The Jr. Geologists will be at the Denver Gem and Mineral Show in September and then resume monthly meetings in October on the third Wednesday of each month. More details about the Jr. Geologists program are on page 8.

Towel Show: This annual event lets everyone showcase the best specimens they collected and lapidary work they completed this past year. Lots of fun for adults and kids. See below for more information.

Come and Have Fun at the Towel Show!

Get Ready for the November Meeting - our Annual 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 Nobel gift cards are presented to the first and second place winners in each category. Come join the fun, plus bring some snacks to share with everyone.

The Towel Show will start at 7:00 pm in the Sky Lounge at Frasier Meadows. If you are bringing items to show, plan to arrive 10 minutes early to set up your display. Come and join in the fun of displaying your special finds and creations and enjoying those of other members.

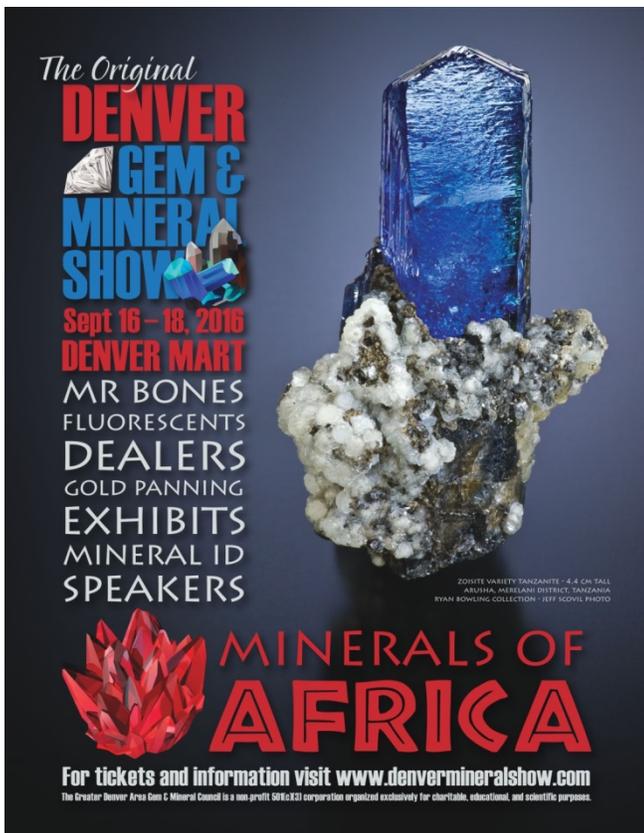
Denver Gem and Mineral Show Volunteers Needed

The Denver Gem and Mineral Show, September 16-18, is organized and run by volunteers from the eight mineral clubs in the metro area, including the Flatirons Mineral Club. At the show, our club has a table to highlight our club to the public and educate children about rockhounding. Both the show and our club table need volunteers and two hours of volunteer time equals full admission to the show. Plus, the display case at our club's table needs specimens collected during field trips this summer. Here is how you can help:

For our Club Table: This year our club table will feature information about our club, games for the kids, specimens for the public to learn more about our hobby, and a display case with specimens from our field trips. We need volunteers at our table on Friday, Saturday, and Sunday. Please contact Dennis Gertenbach at gertenbach@comcast.net to volunteer for a time slot.

For the Club Display Case: We want to highlight some of this year's field trip by displaying specimens we collected in the club display case. Please bring your specimens to the September club meeting (September 8) or contact Dennis Gertenbach at gertenbach@comcast.net to arrange to pick up your specimens for display.

For the Show: There are many areas in which your help is needed, including admissions, security, selling grab bags and posters, show set up, show take down, hospitality room, and volunteer check-in. To learn more about the duties of these jobs and to sign up for a time slot to work, please contact Gerry Naugle at gnaugle@earthlink.net.



Denver Gem and Mineral Show Schedule

Everyday

- Exhibits featuring minerals, fossils, rocks, and jewelry from Africa and around the world
- Hundreds of dealers with fabulous items for sale
- Mineral identification by the Friends of Mineralogy
- Fluorescent Room by the Fluorescent Mineral Society
- Performances by the Umoja Dance Company

Activities for Kids

- Mr. Bones
- Gold Panning for Kids by the Gold Prospectors of Colorado
- Hands-on mineral and fossil activities by the local clubs
- Grab bags for sale

Speakers – Admission to the talks are included in the entrance fee

Day	Time	Speaker	Topic
Friday	noon	Jeff Scovil	<i>An African Mineral Safari</i>
	1:00 pm	Terry Wallace	<i>A Brief Geologic History of Africa — Where Did All Those Great Minerals Come From?</i>
	2:00 pm	Tom Praszki	<i>New Tourmalines from Morocco</i>
	3:00 pm	John Jaszczak	<i>Mineralogical Miracles from the Merelani Tanzanite Mines</i>
	4:00 pm	Pat McMahan	<i>Inclusions in Agates</i>
Saturday	noon	"Pebble Pup" Youth Presentations	Jenna S.: <i>Mineral Significance of the Cripple Creek and Victor Mining District</i> Jack S.: <i>The Rudest Fossil Story</i> Nathan and Jerrod G.: <i>The Geology of Mammoth Caves</i> Destin B.: <i>Overview of the Dimorphodon</i>
	1:00 pm	Pete Modreski	<i>How to Start a Mineral Collection</i>
	2:00 pm	Kristina Bode	<i>Masterpieces and Rare Minerals from the Erongo Mountains, Namibia</i>
	3:00 pm	Robert Bowell	<i>Tsumeb: A Mineralogical Odyssey</i>
	4:00 pm	Ronnie McKenzie	<i>Meteorites from Africa</i>
	8:00 pm	Robert Bowell	<i>An English Geologist Abroad</i>
	Sunday	noon	Frederico Pezzotta
1:00 pm	Skip Simmons	<i>Miarolitic Pegmatites from the Erongo Sub-Volcanic Pluton, Namibia</i>	
2:00 pm	Richard Bostwick	<i>Mines & Minerals of Franklin/Sterling Hill, NJ</i>	

September and October Field Trips

The 2016 field trip season is not over yet. Here is what is planned for September and October. For more information about the trips and to sign up, please contact Anita at anitacolin@hotmail.com.

Date	Location	What to Find
Saturday and Sunday, September 24-25	Yellow Cat and Book Cliffs	Fossil Wood, Barite, Calcite, Agate, Jasper
Saturday and Sunday, October 1-2	Crawford, NE and Surroundings	Fairburn Agate, Prairie Agate
Thursday-Tuesday, October 6-11	Mt Ida, Arkansas	Quartz, Diamonds
Saturday, October 15	Tepee Buttes	Fossil clams, ammonites, baculites, gastropods

Consider carpooling: Carpooling cuts down on the number of cars at these locations, saves gas and money, and makes the trips more enjoyable. Remember to give the driver some money towards the gas.

Collect grab bad specimens: The rock clubs in the area assemble cloth bags full of mineral specimens that have been cleaned, bagged, and labeled in order to sell them at the rock shows. The grab bag sales go into our club's education

funds. We put together 1,000 grab bags each year and they each contain 9 specimens. Yes, we need around 9,000 pieces of rocks and minerals every year to fulfill our grab bag needs for the Denver Gem and Mineral Show and our own show! Please wash the rocks you collect, bag them, and label the bags with the name of the rock or mineral and where they were collected. Then contact Anita to get them to her at anitacolin@hotmail.com or 720-556-9889.

Fantastic Field Trips

This year's field trips have been great. Here are pictures of trips from the past two months. Thanks to Gabi Accatino, Brian Walko, Brennan Johnson, and Dennis Gertenbach for sharing their pictures. And a special thank you to the field trip leaders for leading these trips.



Gold panning at Brian Walko's claim



Tyler Kentucky Mine trip



Wall Street Mill site on Ed Raines's
Boulder County geology trip



Ammonite inside a clam from Kremmling trip



Visit to the Phoenix Gold Mine
for a tour and gold panning

FMC Members Win Awards

Two club members placed in the American Federation of Mineralogical Societies' annual Bulletin Editor's Contest for articles they wrote last year for the Flatirons Facets. This contest includes all clubs throughout the US. Craig Hazelton placed 10th in the advanced adult articles category for his article on Modern Jade Culture. Dennis Gertenbach placed 5th in the special publications category for the Jr. Geologists Reports on Minerals. Congratulations to both club members.

We are always looking for rockhounding articles and pictures for our newsletter. They can be sent to Dennis Gertenbach at gertenbach@comcast.net. Your contributions will be appreciated by all club members. And, be sure to see the article written by Isaac Huang on page 10.

Jr. Geologists Activities



This past month, the Jr. Geologists worked on the Gold Panning and Prospecting badge, joining the club's trip to the Phoenix Gold Mine outside of Idaho Springs. As part of the requirements for the badge, two juniors researched the differences between gold and fool's gold (pyrite). Here is what they learned.

Maxwell Minson, age 10

The color for pyrite is brassy gold. If you have gold the color will be bright golden yellow. There is white gold too, but white gold is a mix of gold and at least one white metal which is usually nickel, manganese or palladium.

The hardness for pyrite is 6.0-6.5. For gold it is only a matter if it is pure or not, but usually it is around 2.8-4.0.

The luster is metallic for both pyrite and gold.

Crystal shape for gold is face centered cubic and pyrite can be cubic, pyritohedron, or octahedron.

The streak will be golden yellow if it's real gold. For pyrite it will be greenish black to brownish black.

Gold and pyrite have no cleavage. The fracture of pyrite is conchoidal while the fracture of gold is hackly.

Gold is shaped and sculpted. It can also be a conductor and it does not corrode or change color over time. Gold is used in jewelry, computers, electronics, medicine, aerospace, rewards and medals. Pyrite used to be an important ore for the production of sulfur and sulfuric acid. Nowadays, pyrite is crushed to get gold ore.

Charlotte Small, age 8

Pyrite's color is silver grey, whereas gold is bright yellow. Gold is soft, about 2½ to 3 on the hardness scale, but pyrite is hard, 6 to 6½. Pyrite forms cubes and octahedrons and so does gold. Gold is used to make jewelry, but pyrite can go dull so it is not used for jewelry. Pyrite is used for sulfur. Pyrite and gold can be formed in the same rock.



Charlotte and Maxwell panning for gold

In September we will be at the Denver Gem and Mineral Show. Starting in October, the Jr. Geologists will resume meeting on the third Wednesday of each month at the Reynolds Branch Library.

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. For information about the Jr. Geologists program, please contact Dennis Gertenbach at gertenbach@comcast.net or 303-709-8218.

Annual Club Picnic

At this year's picnic on August 20th, 1,000 grab bags were filled with specimens for the Denver Gem and Mineral Show and for our club show in December. The participants made quick work of the grab bag stuffing, and then enjoyed a picnic of BBQ pulled pork, great fixings, and desserts. Dennis Gertenbach was honored as the club's Rockhound of the Year for his work with the Jr. Geologists and leading field trips. Here are pictures from the picnic.



Stuffing grab bags with specimens



Gerry Naugle congratulates Dennis Gertenbach as the club's Rockhound of the Year



Tying and packaging the grab bags

Club Lapidary Equipment Available

The club has a new location for our lapidary equipment that club members can come and use after July 8th. Available are a Genie, Pixie, water saw, and flat lap. The club also has a tumbler, but it is currently being used. To use the equipment, please contact Melanie Seaman at 561-573-3942 or mseaman136@gmail.com to schedule when to come and use the equipment. If you are new to using the lapidary equipment, club members will be glad to teach you how to safely use the equipment. A special thanks to Melanie for providing space for the equipment.

Terry O'Donnell hosts one of our club rock saws in his workshop in north Boulder. It is a medium-sized 20-inch oil-bath slab saw. You can arrange to use the saw by contacting him. His email address is whee0297@msn.com. The important requirement for using the slab saw at Terry's house is that you bring a bin of old fashioned kitty litter along with your rocks. You will use it to take your rock pieces back home with you. The added benefit to using the kitty litter is that it absorbs the oil from the surface of your slabs if you leave the pieces in the litter for several days.

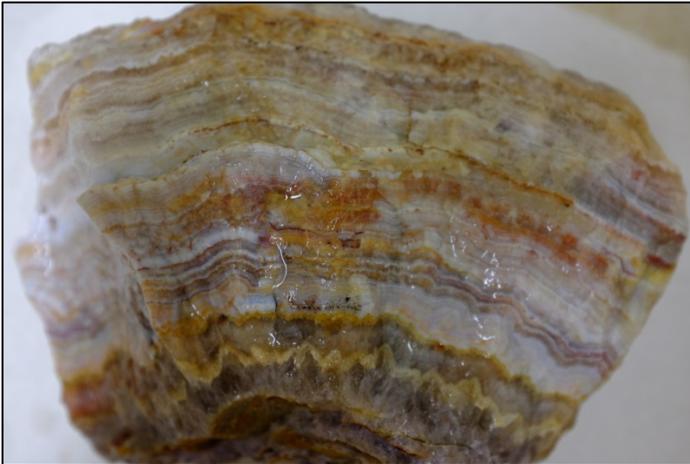
The club's largest rock saw is at Dr. Markus Raschke's house. Call him at 303-499-9157 to arrange a time to saw.

Summer Field Trip

Isaac Huang

My 6-year old and I just returned from a road trip to Disneyland. It was not a rock hounding trip but we still managed to find some rocks and fossils. We'd like to share our findings with the club members.

Agate found at the last chance mine at Creede. I think they'll look beautiful if polished.



Plant fossils found at Creede "airport corner". The area seemed to be rich in fossils, but we were only able to spend 15 minutes there.



We found these near the Valley of Fire State Park in Nevada. They are very transparent. I didn't know what they are, but later figured out they are gypsum.



These stones were found on a beach in California. The bigger two had regular patterns. I think they might be petrified wood.



Trilobites found at the U-Dig Fossils Quarry near Delta UT. There are several free public sites in that area. We were short of time so we chose a commercial quarry.



Check out our Website! www.flatironsmineralclub.org

Our website is up and running! Check out www.flatironsmineralclub.org to see our developing website that Board member, Kevin Notheis, has created.

This is so exciting. This will be where club members can keep in touch and keep track of the club events. We plan to have General and Jr. Geologist meeting news there, as well as our field trip schedule and club photos. A special thank you to Kevin for creating our new website.

Are you on Facebook? So are we! Find the Flatirons Mineral Club on Facebook and Like us, please!

Rock and Mineral Estate Auction

From the Estate of Denzil Wiggins, who was owner of the Red and Green Minerals Rock Shop in Lakewood, Colorado (closed in 2012). Rocks, minerals, and related items sold by the box. Rough, slabs, minerals, some polished or jewelry. Some Lapidary tools, but no lapidary equipment. Most items have not been previously included in a sale yet.

Where: Auction House 109
109 S. Sierra Madre St.
Colorado Springs, CO 80903
(719) 632-5588
www.AuctionHouse109.com

When: September 10 and 24, 2016 (Saturdays)
Auction starts at 10:00 am
Preview items the days before (9/9 & 9/23) or 8:00 to 10:00 am the day of the sale

EVERYTHING MUST GO!

Our 60th Anniversary is Approaching!

Flatirons Mineral Club came into existence on March 9, 1957. We would like to celebrate our 60th Anniversary next year. We will celebrate during our June 2017 meeting. Do you have some great ideas to make this celebration special? Please contact Gabi Accatino at accatino@colorado.edu to help make our anniversary a fun event.



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.

Fossils in the News

Dennis Gertenbach

Did Lucy, the most famous hominoid fossil die from falling out of a tree? A controversial study published last month in *Nature* claims that Lucy died when she fell from high in a tree. Paleoanthropologist John Kappelman of the University of Texas at Austin and his colleagues claim that some of the damage to Lucy's 3.2-million-year-old partial skeleton most likely occurred when she fell from a height of 13 meters (42 feet) or more. The scientists propose that Lucy, a prehuman species called *Australopithecus afarensis*, fell while climbing or sleeping.

Bone breaks from head to ankle fit a scenario in which Lucy dropped the equivalent of least four to five stories, landing feet first before thrusting her arms out in an attempt to break her fall, Kappelman says. The fossils indicate that ancient female's right shoulder blade slammed into the top of her upper arm bone as she extended her hands to break the fall. The shoulder end of Lucy's arm bone displays sharp breaks, as well as bone fragments and splinters forcibly driven into the shaft. The researchers point out that such damage frequently appears in present-day people who fall from great heights or are in serious car accidents. Massive internal bleeding typically follows a body impact as hard as Lucy's, which leads to death.

Not all scientists agree. Tim White of the University of California, Berkeley describes this new paper as "nonsense . . . a classic example of paleoanthropological storytelling being used as clickbait for a commercial journal eager for media coverage." He claims that the cracks and breaks throughout Lucy's skeleton occurred after her death, caused by fossilization and by pressure on fossils embedded in eroding sandstone. White points out that similar fossil bone damage is found in ancient nonclimbing animals, such as gazelles, hippos and rhinos.

Information from https://www.sciencenews.org/article/fossil-autopsy-claims-lucy-fell-tree?utm_source=Society+for+Science+Newsletters&utm_campaign=b51e0e9a43-Editors_picks_week_of_082916_9_3_2016&utm_medium=email&utm_term=0_a4c415a67f-b51e0e9a43-93295497.



Controversial new study claims that Lucy died from a fall from a high tree. Credit: Dave Einsel/Getty Images

Possible world's oldest fossils found in Greenland Geologists have discovered evidence in Greenland of life that lived 3.7 billion years old. If this find is confirmed, these fossils would be the oldest organisms found to date. The fossils were discovered four years ago but not publicized while the geologists, a team led by Allen P. Nutman of the University of Wollongong in Australia, further analyzed their find. The rock layer, known as the Isua supracrustal belt, was collected after the outcrop was exposed when the usual snow cover was lost. This rock has been dated at 3.9 to 3.7 billion years old.

The rock shows visible structures that the researchers claim in a recent *Nature* article to be stromatolites, layers of sediments formed by microbial communities living in shallow water. Stromatolite fossils are common in more recent rocks found throughout the world, including Colorado. However, these are 220 million years older than any previously found.

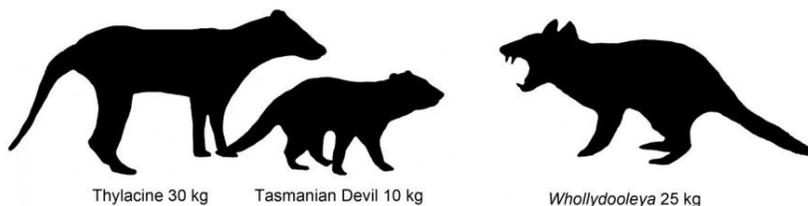
This claim is not without controversy. It leaves comparatively little time for evolution to have occurred since the earlier Hadean, named for the hellish conditions on Earth with boiling oceans from the bombardment of destructive asteroids. This cataclysm, known as the Late Heavy Bombardment, hit Earth between 3.9 and 3.8 billion years ago. So, the debate will continue.

Information from http://www.nytimes.com/2016/09/01/science/oldest-fossils-on-earth.html?emc=edit_th_20160901&nl=todaysheadlines&nlid=53945049&r=0.



Cone-shaped structures discovered in 3.7-billion-year-old rocks in Greenland, about the size of a quarter, may be the earliest fossils of life on Earth. Credit: Allen Nutman/Nature

Large extinct carnivorous marsupial discovered As Australia's forests were drying about 5 million years ago in northwestern Queensland, a large carnivore named *Whollydooleya tomnpatrichorum* (such a great name) roamed the land. This new species is a distant and much bigger cousin of Australia's largest living, flesh-eating marsupial, the Tasmanian devil. It is the first creature to be formally identified from a collection of strange new animals, whose remains have been found in a recently discovered fossil site in Queensland dubbed "New



Comparison between Whollydooleya, the extinct marsupial lion Thylacine, and the modern Tasmanian devil. Credit: Karen Black/UNSW

Riversleigh". A description of the new marsupial, based on its fossil molar tooth, is published in the *Memoirs of Museum Victoria*. The carnivore is thought to have weighed about 20 to 25 kilograms (44 to 55 pounds); for comparison the modern Tasmanian devil only weighs about 10 kilograms (22 pounds). During the late Miocene, about 12 to 5 million years ago, the megafauna began to evolve as Australia dried out. As related by Mike Archer, lead author of this study, "*W. tomnpatrichorum* had very powerful teeth capable of killing and slicing up the largest animals of its day,"

Information from <https://www.sciencedaily.com/releases/2016/07/160725104121.htm>.

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 information on many of these events.

Saturday, Sept. 10, 9:00 am to 6:00 pm, is the **Persson Minerals Fall Clearance Sale** in Denver. See the flyer on the next page for details.

Sept. 10-18 is the **Denver Coliseum Mineral, Fossil, and Gem Show**, 10-6 daily, 4600 Humboldt St., Denver CO. Free admission. See <http://www.coliseumshow.com/>.

Sept. 11-18 is also the **Colorado Mineral and Fossil Show**, 10-6 daily except for 10-5 on Sunday, 9/18. Ramada Plaza - Denver Central, 4849 Bannock St., Denver, CO. Free admission, and free shuttle to the Denver Mart. See <http://www.mzexpos.com/denver>.

Sept. 14-17 is the **Denver Fine Mineral Show** at Marriott Denver West. Times and location are in the flyer to the right. Free admission. See <http://www.finemineralshow.com/>.

Wednesday, Sept. 14, 6:00-9:00 p.m. Come to the **Open House at the Colorado School of Mines Geology Museum**. All are invited; refreshments and viewing of new exhibits prepared for the coming year. A chance to meet museum curators, mineral collectors, and dealers who are in town for the Denver Gem and Mineral Show.

Friday, Sept. 23, 3:00 p.m. Earth Sciences Colloquium at the Denver Museum of Nature & Science, **Jurassic-Cretaceous paleogeographic evolution of the Western Interior Seaway**, by Ron Blakey, Colorado Plateau Geosystems. In Ricketson Auditorium. All are welcome, museum admission is not required.

Monday, Sept. 29, 3:00 p.m. Earth Sciences Colloquium at the Denver Museum of Nature & Science, **Deciphering the Rocky Mountains**, by Beth McMillan, University of Arkansas-Little Rock. In VIP Room. All are welcome, museum admission is not required.

Thursday, Oct. 20, 7:00 p.m. **Colorado Scientific Society** meeting with a talk on **Climate Change, Part I and II**, by William W. Little and

FINE MINERAL SHOW DENVER

SEPTEMBER 14-17 2016

WEDNESDAY-FRIDAY
10AM-6PM
SATURDAY 10AM-5PM

Denver Marriott West
1717 Denver West Blvd
Golden, CO

USE I-70
EXIT 263

For more information, visit:
FineMineralShow.com

Like us on Facebook.
[facebook /Fine-Mineral-Show](https://www.facebook.com/Fine-Mineral-Show) for show updates.

Thom Fisher. Shepherd of the Hills Presbyterian Church, 11500 W. 20th Ave., Lakewood CO. Social time beginning at 6:30; meeting & program at 7:00. All are welcome to attend; see www.coloscisoc.org.

Special museum exhibits:

The "Critical Materials" exhibit continues at the Colorado School of Mines Geology Museum. It highlights critical materials and rare-earth elements - including the minerals these elements can be derived from - essential to the development of advanced technology and energy. The exhibit is a joint project of the Critical Materials Institute at the School of Mines and the Colorado School of Mines Geology Museum. The exhibit focuses on the elements Li, Y, Te, Nd, Eu, Tb, Dy, their minerals, and their uses in technology. You'll find the exhibit downstairs in the museum, which is open daily, 9-4 Mon.-Sat., 1-4 Sun., no admission charge; see http://www.mines.edu/Geology_Museum.

Unearthed: Ancient Life in the Boulder Valley, on exhibit at the University of Colorado Museum of Natural History (Henderson Building; in the Anthropology Hall), CU campus, Boulder. Featuring a collection of 80+ stone tools known as The Mahaffy Cache that was found in a Boulder backyard in 2007. The artifacts were studied by CU Boulder Professor of Archaeology Doug Bamforth, Ph.D. He dates the tools to 13,000 years ago at the end of the last ice age. The exhibit includes interactive elements and video, as well as replicas of the tools that visitors can pick up and hold." The museum is open daily, no admission charge. See <https://cumuseum.colorado.edu/>.

**PERSSON MINERALS
FALL CLEARANCE SALE**

Saturday September 10th 9AM-5PM

3139 Larimer Street, Denver, Colorado, 80205

Kick off the Fall 2016 Denver gem & mineral shows with a special sale of minerals, fossils, books and more at Persson Minerals, conveniently located just 5 minutes from the Coliseum and Ramada mineral shows. Hundreds of specimens ranging from \$1 to several thousand dollars will be available, many at steeply discounted prices. There will also be numerous keystone (50% off) flats as well as wholesale flats of good-quality minerals from both new and old finds. Plenty of street parking is available in front of our house on Larimer street, located on your right between 32nd and 31st streets as you are driving south on Larimer from the other shows (see map below). Snacks and beverages will be provided. Please call Phil Persson at (973)-495-2714 with additional questions, and we look forward to seeing you there!

Persson Rare Minerals, 3139 Larimer St., Denver, Colorado. Est. 2012

Officers, Directors, and Other Volunteers

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accatino@colorado.edu

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2nd Vice President: Field Trip Chair

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Show Chair

Ray Gilbert 303-774-8468
Hoss@g.com

Volunteer Chair

open

Programs and Dealer Chair

Tally O'Donnell, 303-494-6061
phantom@indra.com

Show Advertising and Admissions

Gerry Naugle, 303-591-2830
gnaugle@earthlink.net

Kid's Corner Chair

Charlotte Bourg, 970-278-0975
rckhnd4252@gmail.com
Eileen Fitzgerald, 303 666-1399
elfitz891@hotmail.com

Other Show Committee Members

Gabi Accatino, 303-809-4666
accatino@colorado.edu

Grab Bags

Anita Colin, 720-556-9889
anitacoln@hotmail.com
Charlotte Bourg, 970-278-0975
rckhnd4252@gmail.com

Meeting Door Prize Chair

Brad Willkomm, 303 249-8877
bpwillkomm@yahoo.com

Denver Show Club Table

Dennis Gertenbach, 303-709-8218
gertenbach@comcast.net

A friendly reminder that the 2017 annual dues to the FMC are due this fall

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 2017 dues must be received by January 20th, 2017 in order to stay current with the member benefits, which include electronic club newsletters containing the information about club activities, club field trips information, annual show opportunities, silent auction opportunities, and the annual club summer picnic. Your receipt is your new annual 2017 FMC membership card.





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

First Class Mail

Upcoming Events

Date	Event	Location
Thursday, Sept. 8	Club meeting featuring Gerry Naugle talking about meteorites	Frasier Meadows
Friday-Sunday Sept. 16-18	Denver Gem and Mineral Show – volunteers needed	Denver Mart
Saturday & Sunday Sept. 24-25	Field trip to collect fossil wood, barite, calcite, jasper, and agate	Yellow Cat and Book Cliffs
Saturday & Sunday	Field trip to collect Fairburn and prairie agate	Crawford, NE and surrounding
Thursday, Oct. 13	Club meeting with Annie Zaino speaking on collecting in Antarctica	Frasier Meadows
Saturday, Oct 15	Field trip to collect fossil clams, ammonites, and others	Tepee Buttes
Wednesday, Oct. 19	Jr. Geologists meeting	Reynolds Branch Library