

Flatirons Facets

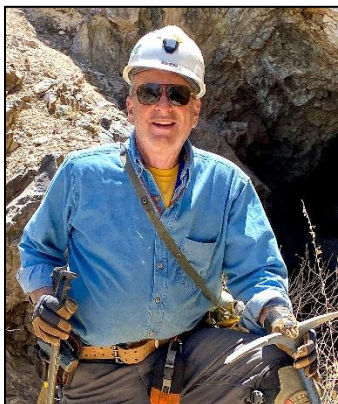
Flatirons Mineral Club of Boulder County, Colorado
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January-February 2025



In this newsletter

- President's Message, page 2
- Dues are Due, page 2
- January 14 Club Meeting: What Jurassic Park Got Wrong, page 2
- Annual Election of Club Officers, page 3
- February 11 Club Meeting: The Safe Handling and Storage of Radioactive Specimens, page 3
- Wire Wrapping Class, page 4
- RMFMS and AFMS News: Bulletin Award Winners, page 5
- Charlotte Small's Fossil of the Month: *Tullimonstrum*, page 6
- Jr. Geologists Activities, page 6
- Gold Panning by Emily Stevenson, page 7
- Which Way Is Up? by Charlotte Small and Dennis Gertenbach, page 8
- Rocks & Rails – A Great Success, page 11
- Great Specimens at the Towel Show, page 17
- Holiday Party and Gift Exchange, page 19
- My Favorite Fossil Made Famous!!! by Beth Simmons, page 20
- Lapidary Safety, page 23
- Member Name Badges, page 23
- Other rockhounding events and activities, page 23

Karina and Emily demonstrate vermiculite expanding like popcorn at the Rocks R Magic Show during last month's Rocks & Rails Show. Thanks to all club volunteers for making Rocks & Rails such a success this year. Photos from the show begin on page 13.



President's Message

We closed out 2024 with a very successful Rocks & Rails Show in December. Much work goes into planning, setup, dealer relations, the kids' area, Rocks-R-Magic Shows, and takedown. Please see the time-lapse video of these activities at <https://youtu.be/3w5mEOLtaTY>. Thank you, volunteers, for making this happen.

I'm excited about this year. We have excellent speakers lined up for January, February, and March, followed by our silent auction in April. Then it's field trip time. Jasper Seldin has become our new field trip coordinator and is planning some exciting trips. We look forward to a great 2025!

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.



Please read below to find out more about these past and future events.

Best regards,
Brian Walko, FMC President

2025 Dues are Due!

Dues are still only \$18 for individual and family membership.

You can pay in three ways:

- **PAY online** by credit card at [FMC Renewal](#) or via this QR code. [Issues? Email fmc.boulder@gmail.com to report the problem, and we will contact you.]
- **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 or money order** made to "Flatirons Mineral Club" or "FMC" to P.O. Box 3331, Boulder, CO, 80307. Please do not send cash in the mail.



January 14 Club Meeting: What Jurassic Park Got Wrong!



Credit: Di, public domain

The Jurassic Park and Jurassic World movies have been a big hit with all dinosaur lovers since the first movie came out in 1993. But not all the dinosaur scenes from these movies are true to science. Come and watch some of the best clips from the movies, while you learn from **Dennis Gertenbach** about some of the dinosaur fallacies in these movies.

Club meetings start at 7:00 pm in Barker Hall at the Mountain View United Methodist Church, 355 Ponca Place in Boulder. Enter the building from the parking lot on the west side.

Annual Election of Club Officers

Our club is entirely run by volunteers. That includes all meetings, field trips, the Jr. Geologists program, and other club activities. The club is led by the club president, secretary, and treasurer. Meeting programs are organized by the first vice president, and field trips are organized by the second vice president. There are also six directors who handle many of the club's activities. Many others volunteer for certain tasks as listed on page 25.

For 2025, the following club members have agreed to continue serving the club in their office. These include:

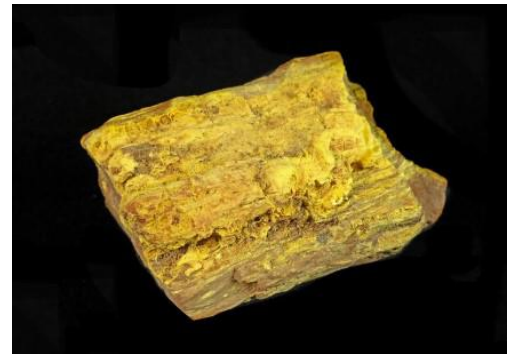
- President: Brian Walko
- Secretary: Sharon Dooley
- Treasurer: Gery Naugle
- First Vice President (Meeting Program Coordinator): Markus Raschke and Gerry Naugle (co-chairs)
- Second Vice President (Field Trip Coordinator): Jasper Seldin
- Directors (serving a 2-year term): Tally O'Donnell, Anita Colin, and Dennis Gertenbach

If you are interested in volunteering for an office or to help the club in other ways, please contact Brian Walko, club president, at bwalko@earthextractions.com or 303-931-4283.

February 11 Club Meeting: The Safe Handling and Storage of Radioactive Specimens (Plus, Everything Else You Need to Know About Collecting Radioactive Minerals)

Last summer Ron Wolf attended two estate sales. In each case, the deceased was a retired mining engineer. In each case the sale included a few hundred rocks, none of them labeled as to species or source. The companies running those estate sales had no idea what minerals they were selling.

At one of the sales, people were handling rather rich, powdery specimens of carnotite and were wondering whether it was sulfur. Ron interceded with the hosts of the sale to get the stuff labeled, have them put the specimens in plastic sandwich bags, and advise buyers that they needed to take precautions. At the second sale, the deceased had an unlabeled cardboard box of fairly hot uraninite specimens in the garage. Ron put a Geiger counter on the box, so the folks running the sale could see what they had, and then he advised them not to sell the stuff. This led to Ron's presentation about **The Safe Handling and Storage of Radioactive Specimens (Plus, Everything Else You Need to Know About Collecting Radioactive Minerals)**.



Uraninite in petrified wood. Credit: Ron Wolf

Some of the points to be covered during the presentation:

- The basic physics of radioactivity in minerals in plain English in less than three minutes.
- Why mineral collectors do - or don't - deal with radioactive minerals.
- An explanation of the possible hazards and how to minimize them.
- The biggest danger: inhaling dust particles.
- How about radon? What it is and how to deal with it.
- How local mineral dealers and museums handle and store their radioactive inventory. (They exhibit a surprisingly wide range of practices.)

- How he does it. He will be showing the lead-lined case he uses for storing and displaying his specimens.
- Typical problems in identifying radioactive minerals and assessing the possible risks they entail.
- Equipment and supplies you can easily obtain online to upgrade your own handling and storage of radioactive minerals.
- What Colorado law says about possession of radioactive materials.
- The options for legal disposal of radioactive materials. (It's not easy or cheap to get rid of the stuff properly.)
- Colorado collecting localities and examples of Colorado specimens. (He will be showing some of his specimens in his safe, totally enclosed case.)
- Recommendations for how best to handle your own radioactive specimens.
- A short slide show of radioactive eye-candy, i.e. images of attractive specimens.



Uranophane. Credit: Ron Wolf

Join us in Barker Hall at Mountain View United Methodist Church for a great program.

Wire Wrapping Class on March 30



Many of us have seen Caren Johannes' beautiful wire wrapping jewelry at Rocks & Rails Shows. She will share her wire-wrapping knowledge in a class on March 30. Come learn the basics of wire wrapping and stone-setting as you make a beautiful cabochon pendant! No previous jewelry-making experience is necessary. Bring yourself and your imagination!

The class will be on Sunday, March 30, starting at 1 pm in Fraiser Parlor at Mountain View United Methodist Church in Boulder. The cost for the class is \$75, which covers the cost of materials (wires and stones), instructions, and tool rental. The club will pay half, so your cost will be \$37.50, payable at the beginning of class.



The class is limited to 12 students (adults and juniors in middle or high school) and only two people per family. You can sign up with Gerry Naugle at gnaugle@earthlink.net or 303-591-2830.

And be sure to send a photo of your creation for the next newsletter and display your piece in the Towel Show next fall.

RMFMS and AFMS News: Bulletin Award Winners

Each year, the Rocky Mountain Federation of Mineralogical Societies selects the best articles, photos, and other features in club newsletters in our region. The top 3 in each category then go on to the national contest, sponsored by the American Federation of Mineralogical Societies. Our club members received 14 awards from the Rocky Mountain Federation, including four first place awards. Our Jr. Geologists won all six juniors awards. Eleven club members went on to the national contest and received awards for some of the best articles, photos, and features in the country. And special congratulations to Charlotte Small for winning six awards!

Here are the club members who received awards in last year's contests.

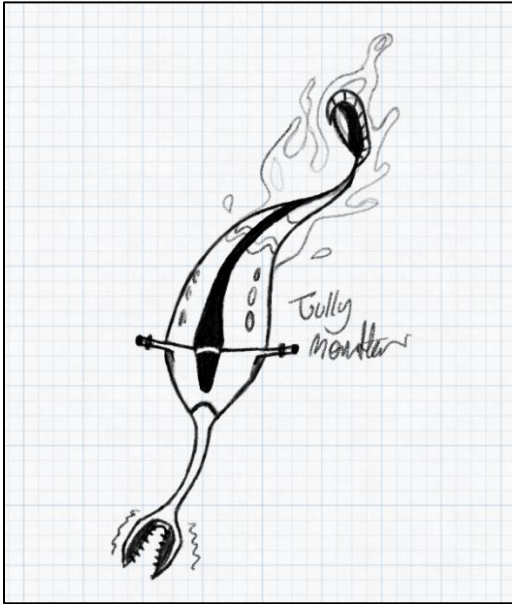
Rocky Mountain Federation

- Adult Articles, second place: Nancy Kimber for "A Fish Tail, Part 1: Good Karma!"
- Junior Articles (under 12), first place: Emilyn Bubb for "Combat Rock Field Trip"
- Junior Articles (under 12), second place: Eian Link for "How to Make Your Own Pottery Clay at home (FROM DIRT)"
- Junior Articles (under 12), third place: Axel Gray for "Double Header Mine Report"
- Junior Articles (12-17), first place: Charlotte Small for "History of *Opabinia*"
- Junior Articles (12-17), second place: Daniel Bonvillian for "White River Formation"
- Junior Articles (12-17), third place: William Elek for "What We Like to Collect"
- Written Features, first place: Brian Walko for "President's Message"
- Written Features, second place: Doran Adams for "Calumet Mine Field Trip"
- Written Features, honorable mention: Anita Colin for "Member Profile: Brian Walko"
- Drawn Features, second place: Charlotte Small for "Fossil of the Month: *Pikaia*"
- Photo Collage, second place: Rebecca Stetson for "Photos from the Florissant Field Trip"
- Special Publications, second place: Charlotte Small for "Grey's Prehistoric World, Paleozoic Edition"
- Large Bulletins, first place: Dennis Gertenbach for the *Flatirons Facets*.

American Federation

- Adult Articles, second place: Dennis Gertenbach for "Why Does Hartsel Barite Turn Blue in the Sun?"
- Junior Articles (under 12), third place: Eian Link for "How to Make Your Own Pottery Clay at home (FROM DIRT)"
- Junior Articles (under 12), fourth place: Emilyn Bubb for "Combat Rock Field Trip"
- Junior Articles (under 12), sixth place: Axel Gray for "Double Header Mine Report"
- Junior Articles (12-17), first place: Charlotte Small for "History of *Opabinia*"
- Junior Articles (12-17), second place: Daniel Bonvillian for "White River Formation"
- Junior Articles (12-17), fourth place: William Elek for "What We Like to Collect"
- Written Features, second place: Doran Adams for "Calumet Mine Field Trip"
- Written Features, ninth place: Brian Walko for "President's Message"
- Draw Features, third place: Charlotte Small for "Fossil of the Month: *Pikaia*"
- Special Publications, third place: Charlotte Small for "Grey's Prehistoric World, Paleozoic Edition"
- Large Bulletins, fourth place: Dennis Gertenbach for the *Flatirons Facets*.

Congratulations to all our club winners!



Fossil of the Month: *Tullimonstrum*

Charlotte Small, Jr. Geologist

Tullimonstrum (also known as the Tully Monster) was an aquatic animal from the Pennsylvanian rock of the Mazon Creek fossil beds. It has a long and confusing history regarding taxonomic classification.

You can read more about it [here](#) and [here](#).

Charlotte has a comic series about prehistoric history, Grey's Prehistoric World, at https://www.webtoons.com/en/canvas/greys-prehistoricworld/list?title_no=847316&webtoon-platformredirect=true&page=1. You can learn more about ancient environments and the creatures that lived there from her comics.

Jr. Geologists Activities

For our last meeting in 2024, we practiced the Rocks R Magic show for the upcoming Rocks & Rails, where many Jr. Geologists enjoyed demonstrating the “magical” properties of different rocks and minerals. We also learned techniques for putting together a display case, and five Jr. Geologists had really great displays at Rocks & Rails. With Christmas just around the corner, Howard Gordon, along with several juniors, showed a number of books that juniors of all ages would enjoy.



Howard Gordon shows books that Jr. Geologists might like.



As homework for the meeting, the GeoExplorers were each assigned a different unusual mineral. After researching his or her mineral, each talked about the mineral to the other GeoExplorers. And they took home a specimen of their mineral.

The highlight of the evening was presenting the bulletin awards the Jr. Geologists won at the RMFMS and AFMS 2024 contests. Our juniors won first, second, and third place in both contests, a complete sweep of the awards.

The GeoExplorers talk about their unusual minerals they researched before the meeting.



2024 Bulletin Contest awards, Emily with her dad, Tony William, and Charlotte with Dennis.

Special Effects on January 21

We will kick off 2025 learning about minerals with special effects, earning the Special Effects Badge. Do you know what triboluminescence is? How about birefringence? Or chatoyancy? Come to the meeting on **Tuesday, January 21**, and learn what these properties are and what causes them.

The Jr. Geologists program is open to all Flatirons Mineral Club families. We meet monthly on the third Tuesdays during the school year and have special field trips and other activities in the summer. For information about the Jr. Geologists program, please contact Dennis at gertenbach1@gmail.com or 303-709-8218.



Credit for the photos: Hana Elek

Gold Panning

Emily Stevenson, age 12



The Marshall Gold Discovery State Historic Park is located in Coloma, California, and is famous for being the site where James W. Marshall discovered gold in 1848. This event marked the beginning of the California Gold Rush, one of the most significant migrations in U.S. history. Marshall found gold while building a sawmill for John Sutter, and the news of his discovery spread quickly, attracting thousands of people seeking fortune.

Gold was discovered in California in 1848 by James W. Marshall while he was building a sawmill for John Sutter along the South Fork of the American River in Coloma. Marshall noticed shiny flecks of gold in the tailrace (the area

where water flows away from the mill) and initially kept it a secret. However, when he and Sutter had the gold tested, it was confirmed to be real.

Gold panning at Marshall Gold Discovery State Historic Park was such an exciting experience! Even though we didn't end up finding any gold, the whole adventure was worth it. We set up our panning spot on one side of the river, being careful to stay within the designated area. The other side is privately owned by the park, so it's important to respect those boundaries.

As we scooped up the river gravel and carefully sifted through it, I felt like a true prospector, just like those who rushed to California during the Gold Rush. Even without finding any shiny flecks, we enjoyed the beautiful scenery, the sound of the rushing water, and the thrill of searching for treasure. It was a great opportunity to connect with nature and learn about the history of gold mining in the area.



Editor's Note: Emily is in 7th grade at Louisville Middle School. She loves rockhounding because it is a way for her to not have stress for an hour or two, and it is really cool to see/learn all about the different kinds of rocks. She is on an archery team, the High Altitude Hitmen, that competes at monthly tournaments. She also loves playing DnD, cross country running, and playing cornet in the school band.

Which Way Is Up?

Charlotte Small and Dennis Gertenbach

Have paleontologists been looking at the *Rafinesquina* brachiopod upside down this whole time?

Rafinesquina is a genus of brachiopod that primarily flourished in the Darwillian subdivision of the Ordovician through the Ludlow epoch of the early Silurian, approximately 469 to 423 million years ago. Adapting to live worldwide, fossils of this genus are commonly found outcropping in regions of the Americas, Canada, West Europe, China, and Russia. They typically measure around 40 millimeters (1.5 inches) and have produced 22 described species.

This brachiopod is characterized by an asymmetrical semi-circular design with one valve (shell) being concave shape, and the other being convex (see Figure 1). A small notch, or beak is located on the straight part of the structure, which is a necessary feature of all brachiopods, despite not being very noticeable or prominent. This serves as a hinge mechanism, allowing the animal to close or open its shells. Another noticeable feature are the thin radiating lines

beginning at the beak that follow the downward curvature of the brachiopod. These often alternate in size and distance from one another. Some of this patterning can be attributed to scarring from the mechanical stress, which is an important clue in deducing the angle limitations of the hinge mechanism.



Figure 1. *Rafinesquina nasuta* from the Ordovician McMillan Formation, Georgetown, Ohio. Left: larger convex valve, middle: flatter concave valve, right: end view showing the thin convex-concave shape of this brachiopod. Credit: Atlas of Ordovician Life, licensed under Attribution-NonCommercial-ShareAlike 3.0

Almost all brachiopods are *suspension feeders*, a term coined for animals who capture and digest floating particles. Relying completely on the water current, they use their lophophore to feed on small bits of phytoplankton, bacteria, and animal pieces. The lophophore and other structures of this brachiopod are shown in Figure 2.

The Mystery: Which valve was up?

Many ancient (and modern) brachiopods attached to rocks, shells, and other hard surfaces on the bottom of the ocean by a fleshy stalk called a pedicle. This not only kept the brachiopod anchored to the ocean floor, but also kept the animal above sediments which would foul its lophophore as it opened its shells to feed.

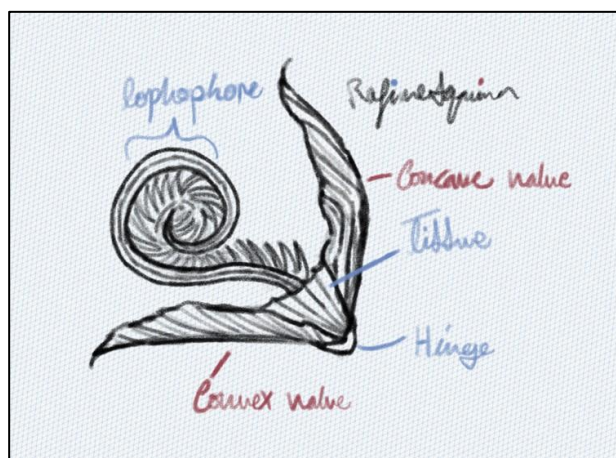
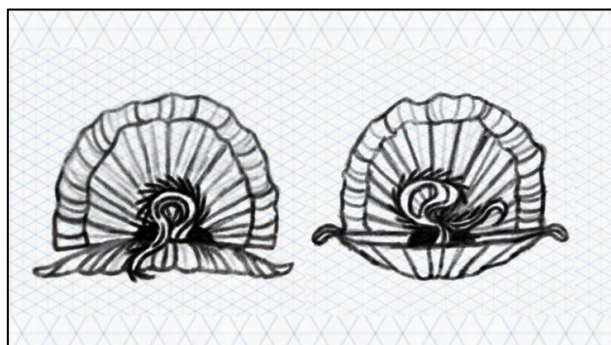


Figure 2. *Rafinesquina* anatomy. Credit: Charlotte Small

Rafinesquina and other strophomenid brachiopods are different. They did not have a pedicle but, instead, sat directly on the ocean floor. If the bottom was somewhat mucky, the brachiopod would need some strategy to prevent sediments from entering the opened brachiopod and fouling its lophophore as it fed. This has puzzled paleontologists since *Rafinesquina* was first described by Timothy Abbott Conrad of the New York Geological Survey in 1838. Because the convex valve of *Rafinesquina* had a pronounced lip along the open end, paleontologists reasoned that the convex valve sat on the ocean floor with the concave valve facing up. The pronounced lip on the convex valve would have prevented sediments from washing into the opened brachiopod, as shown in the right illustration in Figure 3.

Figure 3. Illustration of *Rafinesquina* sitting on the ocean floor. Left: convex valve up, right: concave valve up. Credit: Charlotte Small



However, there are problems with this orientation. Many *Rafinesquina* fossils have epibionts (animals such as some species of bryozoan and coral that attach to shells) encrusting their shells. But most of these *Rafinesquina* fossils have epibionts attached to the convex valve, like the one shown in Figure 4. This implies that the convex valve must have faced upwards to allow the epibionts access to seawater to feed. Additionally, *Rafinesquina*, with the concave valve facing up, would have been prone to flipping over in ocean currents unless it was sunk into the mud, which would cause the open brachiopod to fill with sediments. These concerns argue that the convex valve faced up, as illustrated on the left of Figure 3.

So, we have a nearly 200-year-old mystery. Which valve faced up?



Figure 4. The bryozoan epibiont *Homotrypella* sp. encrusting a *Rafinesquina ponderosa* convex valve from the Ordovician

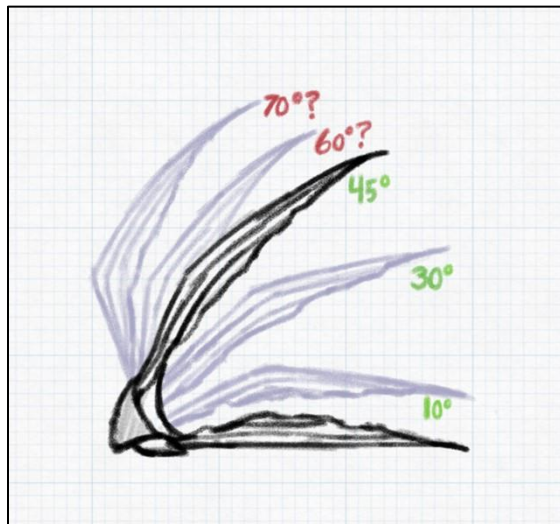


Figure 5. Illustration of *Rafinesquina* gape angles. Credit: Charlotte Small

A paper published this year by several authors, including Lindsay Dougan and James Hagadorn of the Denver Museum of Nature and Science, addressed this mystery (Dattilo et al., 2024). Using a number of sophisticated analyses, they determined that instead of opening only 5 to 10° like most modern brachiopods, *Rafinesquina* would have opened 45° or more (see Figure 5). With this wide opening, the brachiopod could rapidly shut, quickly clearing out any sediment that entered inside the brachiopod. Observations of depressions in the sediment around some *Rafinesquina* fossils (termed “moats”) support seawater being rapidly expelled from the brachiopod.

Conclusion: Which valve was up?

So, is this mystery solved at last? The combined evidence of the valve angle study, as well as the appearance of the mud “moats”, strongly support a convex side-up orientation. Epibionts on the convex valve also support this theory. Assuming all this stands, the original concave-up theory is not substantiated, as the problem of possible mud contamination has likely been resolved. Based on the evidence, we are inclined to believe that a convex-up orientation is the most probable.

As you ponder the *Rafinesquina* fossil in Figure 6, what do you think?



Figure 6. Which valve faced up when *Rafinesquina* was living on the ocean floor?

References and Further Reading

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Rocks & Rails – A Great Success

December's Rocks & Rails Show was one of our best ever, thanks to a year's worth of planning, preparation, a lot of volunteers on the show committee, and our colleagues from the Boulder Model Railroad Club. Many thanks to all of you who volunteered for setup/takedown, admissions, security, kids' area, Rocks R Magic Shows, and creating grab bags.

As a result of everybody's efforts, attendance during the three days of the show was about 3,500. Proceeds for the attendees and dealers were \$6,950, our best ever. The kid's games and grab bag sales added \$6755 to our scholarship fund, which supports our annual college scholarship to a Colorado student seeking a geology-related degree. Our scholarships for this year and into 2026 are covered.



2024 Rocks & Rails Show

Both our dealers and club members at the Artisan Table enjoyed brisk sales during the show. Once again, the selection of rocks, minerals, fossils, and jewelry was exceptional this year, and everyone could find nice additions to his or her collection.

Display Cases

This year we had 6 display cases by club members, including four Jr. Geologists. The public voted on their favorites, and the top vote getters were awarded first and second place ribbons.

Adults

First Place: Nancy Kimber

Second Place: Dennis Gertenbach

Juniors

First Place: Emilyn Bubb

Second Place: William and Maxwell Elek

Thanks to everyone who put together a display case for the show. The displays are a highlight every year and show the public some of the spectacular specimens that adult and junior members have collected.

Here's to all the club members who gave their free time to make this year's show a success!



Photos from 2024 Rocks & Rails Show

Dealers



Keeping Things Running Smoothly



Kids' Area



More Photos from 2024 Rocks & Rails Show

Club Area



Rocks R Magic Shows



And Even More Photos from 2024 Rocks & Rails Show

Artisan's Tables



Display Cases



Final Photos from 2024 Rocks & Rails Show

Fluorescent Room



Door Prizes



*Photos provided by Brian Walko
and Dennis Gertenbach*

**Be sure to come to our 2025 Rocks & Rails Show
in December!**

Great Specimens at the Towel Show

What wonderful specimens were displayed at this year's Towel Show, our annual show-and-tell, on November 14. Members brought minerals, fossils, and rocks they collected, plus lapidary projects they completed, over the past year. We voted on our favorites, and the winners were:

Senior Division

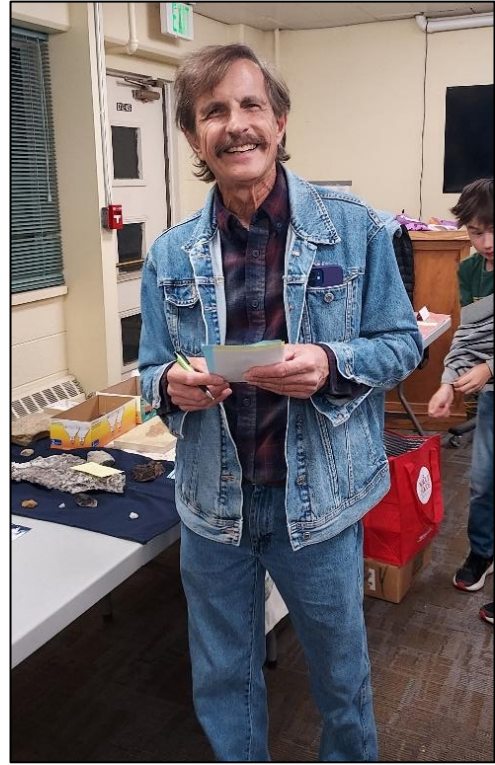
Best Club Field Trip – Jasper Seldin
Best Personal Field Trip – Johny Reyes
Best Lapidary or Jewelry – Izumi Onitsuka
Best Mineral – Johny Reyes
Best Fossil – Dennis Gertenbach
Best Ugly Rock – Nancy Kimber
Best Towel – Johny Reyes

Junior Division

Best Club Field Trip – William Elek
Best Personal Field Trip – Emilyn Bubb
Best Lapidary or Jewelry – Ellen Carmona
Best Mineral – William Elek
Best Fossil – Emily Stevenson
Best Ugly Rock – Emilyn Bubb
Best Towel – Eian Link

Plan to join us next November with your finds and lapidary work from 2024.





Photos provided by Brian Walko, Hana Elek, and Dennis Gertenbach



Holiday Party and Gift Exchange

With the Rocks & Rails show over, it was time to relax at the club's annual holiday party on December 17. The gift exchange was great fun, and with all the trading, you never knew what gift you would end up taking home. Plus, the holiday goodies were a treat.

Here are photos from Brian Walko of the night's festivities.



My Favorite Fossil Made Famous!!!

By Beth Simmons

Editor's note: This article first appeared in the Denver Gem and Mineral Club's newsletter, Tips & Chips, in October 2024.

How many fossils do you know that make the headlines of the *New York Times*? Maybe a *T-rex* or *Triceratops*. Certainly NOT an innocuous obscure little trace fossil called *Bifungites*! Sue Hirschfeld sent me the link to an article by Priyanka Runwal in the *Times* on August 22, 2024, about the double-arrow trace fossil being found in Brazil, with the worm still inside!! What's the chance? And what's the story?



Figure 1

When I was a freshman at Allegheny College, I collected the specimen in Figure 1 near my cousin's farm in Eastern Erie County, PA. I took it to my paleontology professor, William Parsons, at Allegheny and he said it was a "*Bifungites*." I asked, "What's that?" He said no one knew for sure but they were supposed to be worm burrows.

I then showed it to a friend in the Gem City Rock and Mineral Society, Richard Lamborn, and he took up the chase. He found more samples near his home along Glenwood Parkway near its intersection with Gore Road, where the Girard shale outcrops in a road cut. The sample shown in Figure 2 came from that location.

Then Dick found more in the Meadville Shale - perfect double-ended arrows (Figures 3 and 4 which shows the vertical tubes). These specimens are now in the Carnegie Museum in Pittsburgh.



Figure 2



Figure 3

With Professor Raymond Gutschick from Indiana University, Dick authored a number of articles about the strange creature who apparently had lost its way. The topic lay dormant for almost 40 years when, in 2002, Brazilian paleontologists described very similar specimens from the Devonian Pimenterira Formation in northeastern Brazil. In 2022, sharp-eyed Dr. Daniel Sedorko of Brazil's National Museum looked twice at specimens he found at that site in the Sambito River. Of the 190 specimens he examined, **inside at least eight traces were other fossil impressions—of segmented worms!!** (Figures 5, 6a-d).



Figure 4



Figure 5

The many authors who co-authored the recently published article “The trace fossil *Bifungites* and its tracemaker: A rare find!” in *Earth History and Biodiversity*, vol. 1, Sept. 2024, attributed the worm impressions to *Annulitubus*, a maldanid (or bamboo) worm, burrowing for protection from storms and predation in a shallow marine environment (Figure 7). According to Wikipedia, modern species build tubes under rocks, forming galleries in sand or mud at the bottom of estuaries.

Just the finding of the worm impressions is outstanding and enlightening, but then to have their discovery be reported in a headline in the *New York Times* (Figure 5, used with permission via email 8/28/24) elevates the little worms to the level of a discovery of a new dinosaur! And to think - this was the first important fossil I ever found!!! Now famous!!!

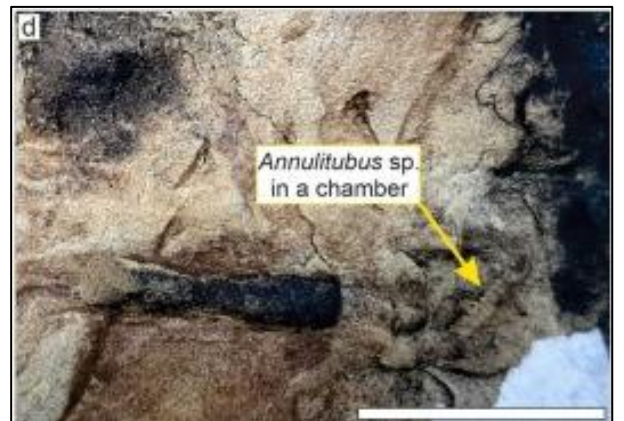
Thanks to Sue Hirschfeld for forwarding the *New York Times* article!

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Fig. 6a-d. *Annulitubus* impressions in shale from Brazil. (Sedorko, et al., fig. 4 a-d Used with permission via email 8/28/24)



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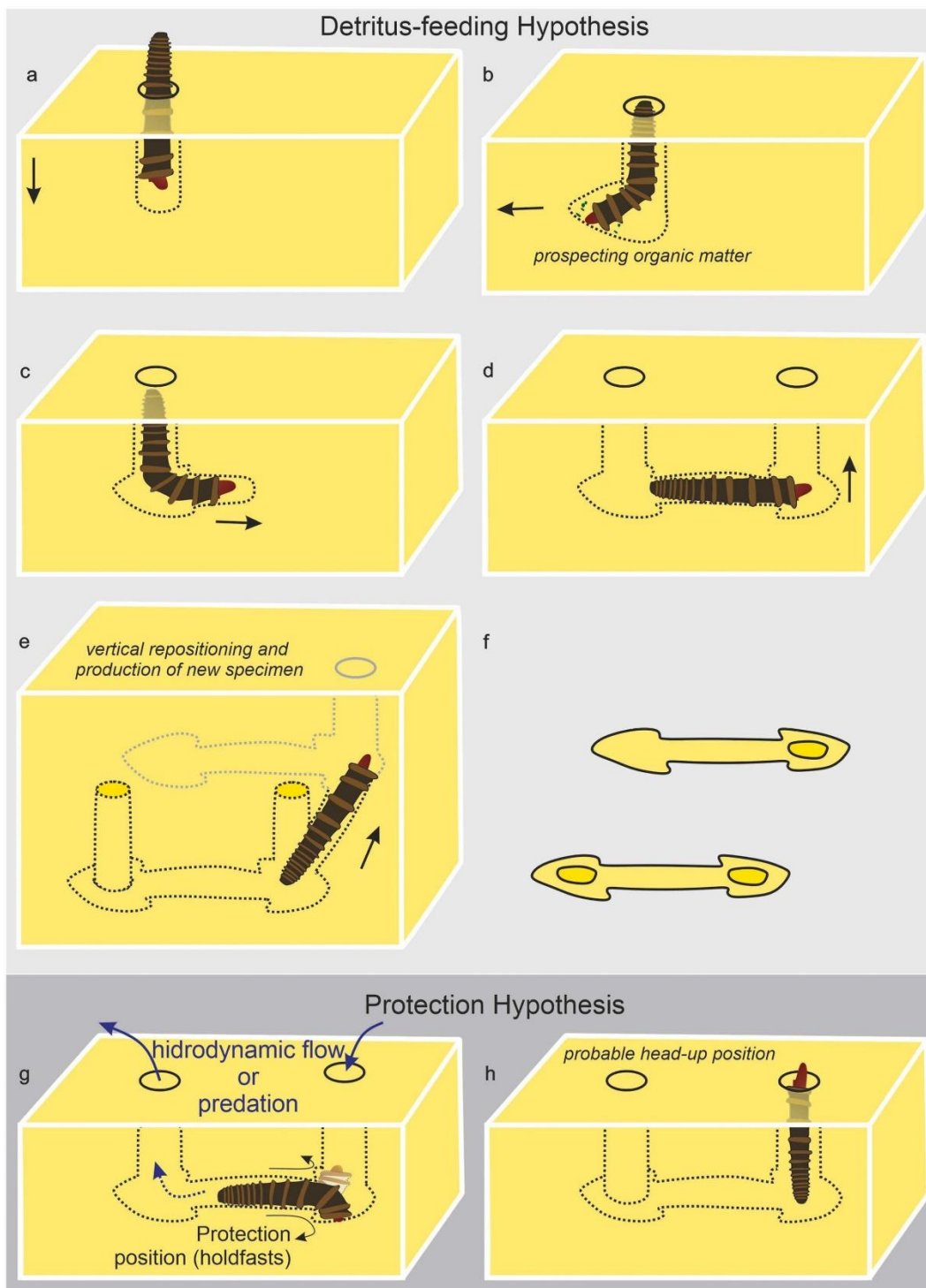


Figure 5

Lapidary Safety

When the weather is too cold outside to go collecting, many of us continue to enjoy our hobby with indoor lapidary projects. Here are some safety tips for cutting, forming, and finishing stones, minerals, and gemstones:

- **Wear safety glasses:** Safety glasses with side shields or face shields to protect your eyes from hazards.
- **Remove jewelry:** Remove rings, bracelets, and pendants before working.
- **Use ring clamps:** Use ring clamps instead of polishing rings directly on the equipment.
- **Don't polish chains:** Use a tumbler to polish chains instead of the polishing wheels.
- **Wear gloves:** Gloves can protect your hands from cuts and abrasions.
- **Be careful with polishers:** Use care when using polishing wheels to avoid injury.

Be safe this winter, so you can enjoy collecting again as the weather warms up.

Member Name Badges

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

If you would like a name badge, 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 badge, and it will be ordered for you. Your first name badge is free!



Example of a club name badge

**DENVER GEM AND MINERAL GUILD
ANNUAL SHOW 2025**
February 28 – March 2, 2025
Jefferson County Fairgrounds

Friday 10 -6; Saturday 10 -6; Sunday 10 -5

| | |
|-----------------------|-------------------------|
| Gems | Kids' activities |
| Books | Crystals |
| Displays | Jewelry |
| Minerals | Geodes |
| Sculptures | Fossils |
| Demonstrations | Over 25 Sellers |

**Amazonite & Aquamarine
Theme Minerals
Best of species contest**

<https://denvergem.org/show/>

Photo by
DGMG member
Ron Wolf
CSM Specimen,
Mt. Antero, CO

Other Rockhounding Events and Activities in the Area

Here are other events and activities in the area that may be of interest.

MINES MUSEUM
of earth science

**MINERAL ID DAYS
2025**

Located in the classroom across from the Museum's main entrance

March 1st Aug. 2nd
June 7th Nov. 15th

1-4PM

Limit 3 specimens per person

- FOSSILS
- METEORITES
- MINERALS
- ROCKS
- GEMS

WIPS Symposium

Put March 22-23, 2025 on your calendars! The Western Interior Paleontological Society is celebrating its 40th year with an amazing symposium that will look at key discoveries, new technologies, and revised opinions about research and topics in paleontology over the past 40 years. Expect a lineup of astute speakers, a potpourri of great artwork on display, and thought-provoking cases and posters.

The event will be held at Colorado School of Mines in Golden, Colorado. Remember that your participation will also help fund grants for paleontological research and education. Check out westernpaleo.org for more details. Registration opens soon. **Get on board early to explore Retrospectives: Celebrating 4 Decades of Paleo Advances!**



Retrospectives:

1985-2025 Celebrating 4 Decades of Paleo Advances

Rock the Tate

A Gem Show and Seminars on Wyoming Geology


Saturday, Feb. 1, 2025
10 a.m. - 2 p.m.

Join us for this inaugural, free event to shop for Valentine's Day gifts while you learn about our fascinating local geology.

Casper College's Geo Science Club will be coordinating vendors. Contact Dalene Hodnett at 307-268-3026 if you're interested in hosting a booth.

Enjoy geology talks by JP Cavigelli, Russell Hawley, Mac Goss, Kent Sundell, and Mike and Marron Bingle Davis.

Casper College provides equal opportunity in education and employment — caspercollege.edu/nondiscrimination



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A friendly reminder to pay your 2025 annual dues

Dues are still only \$18 for individual and family membership. You can pay in three ways:

- **PAY online** by credit card at [FMC Renewal](#) or via this QR code: [Issues? Email fmc.boulder@gmail.com to report the problem. You will be contacted after we resolve the problem.]
- **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 or money order** made to "Flatirons Mineral Club" or "FMC" to P.O. Box 3331, Boulder, CO, 80307. Please do not send cash in the mail.



Your 2025 dues must be received by January 20th, 2025, in order to stay current with the member benefits, which include electronic club newsletters containing 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 2025 FMC membership card.



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

First Class Mail

Upcoming Events

| Date | Event | Location |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Tuesday, January 14 at 7:00 pm | Monthly club meeting with Dennis Gertenbach presenting What Jurassic Park Got Wrong , page 2 | Mountain View United Methodist Church, 355 Ponca Place in Boulder, Barker Hall |
| Tuesday, January 21 at 6:30 pm | Jr. Geologists Meeting, working on the Special Effects Badge , page 6 | Mountain View United Methodist Church, 355 Ponca Place in Boulder, Frasier Parlor |
| Tuesday, February 11 at 7:00 pm | Monthly club meeting featuring Ron Wolf with a program on Safe Handling and Storage of Radioactive Minerals , page 3 | Mountain View United Methodist Church, 355 Ponca Place in Boulder, Barker Hall |
| Tuesday, February 18 at 6:30 pm | Jr. Geologists Meeting | Mountain View United Methodist Church, 355 Ponca Place in Boulder, Frasier Parlor |
| Sunday, March 30 at 1:00 pm | Wire wrapping class with Caren Johannes , page 4 | Mountain View United Methodist Church, 355 Ponca Place in Boulder |