PICK&PACK

THE BULLETIN OF THE COLORADO SPRINGS MINERALOGICAL SOCIETY Published Since 1960

Colorado Springs Mineralogical Society
Founded 1936
~ Lazard Cahn ~
Honorary President
"Pick & Pack"
Volume 62 No. 8
October 2022

CSMS General Assembly

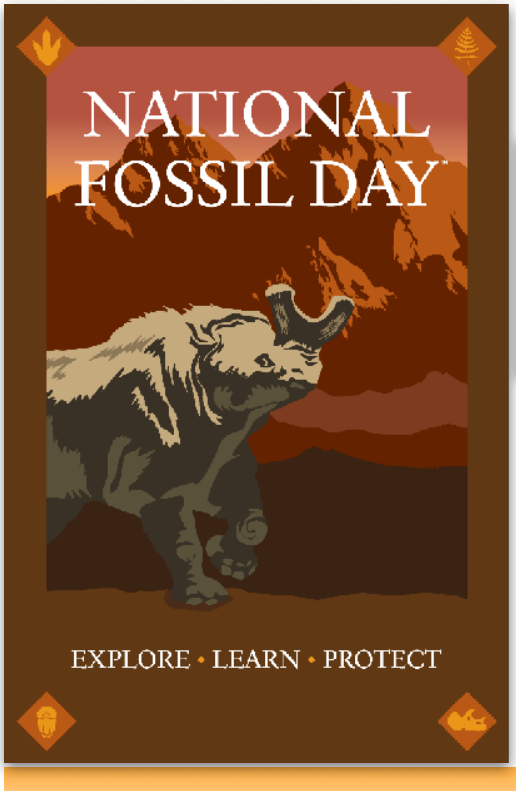
Thursday, October 20, 2022 7:00 PM
Mt. Carmel Veterans Center

A-L BRING SNACKS

In case of inclement weather please call Mt. Carmel Veteran's Service Center 719-309-4714

In This Issue …

National Fossil Day™ and Earth Science Week!



Poems!


p. 15

p. 7


p. 18


p. 17

EARTH SCIENCE WEEK

Happy **National Fossil Day** October 12 and **Earth Sciences Week** October 9 - 15! Check out our amazing club member poem submissions!

COLORADO SPRINGS MINERALOGICAL SOCIETY PO BOX 2 COLORADO SPRINGS, COLORADO 809801-0002

CSMS Group Calendar

Oct '22	Nov '22						
12 Oct	9 Nov	Fossil Group	2nd Wed	6:00 PM	East Library Annex	Jerry Suchan	303-648-3410
6 Oct	3 Nov	Board Meeting	1st Thur	6:00 PM	Zoom	John Massie	719-338-4276
20 Oct	17 Nov	Pebble Pups	3rd Thur	5:30 PM	Mt. Carmel Center	David St. John	719-424-9852
20 Oct	17 Nov	General Assy	3rd Thur	7:00 PM	Mt. Carmel Center	John Massie	719-338-4276
27 Oct	24 Nov	Crystal Group	4th Thur	7:00 PM	Mt. Carmel Center	Kevin Witte	719-638-7919
By appt	By appt	Faceting Group	By appt	By appt		John Massie	719-338-4276
By appt	By appt	Lapidary Group	By appt	By appt	Sharon's House	Sharon Holte	719-217-5683

CSMS Club Events

No club events to report. Field trip season is over.

Community Events

Oct 6: The gathering for our 2022 Emmons Lecture about the Deccan Traps link to the end-Cretaceous mass extinction will happen on Thursday, October 6th in Room 241 of Berthoud Hall on the Colorado School of Mines campus from 6 to 9 PM. The talk by Gerta Keller's colleague Blair Schoene of Princeton will start at 7:00 PM.

Oct 15: Littleton Gem & Mineral Club Silent & Verbal Auction, Heritage United Methodist Church, 7077 S. Simms Street, Littleton, CO 80127-3241. 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. Club retains 20% commission. Non-club members are limited to 2 flats. Members are limited to 4 flats. Payment is by cash or check only. Email Lynette Warren at flywithle123@comcast.net to pre-obtain a seller/buyer number or get it at the door.

Oct 20: Colorado Scientific Society, S.F. Emmons Annual Lecture, "India's Deccan Traps and the KT Boundary," by Gerta Keller, Princeton Univ. Berthoud Hall Room 241, Colorado School of Mines campus; all are welcome, no charge. Hear about the controversy as to whether it was the Chixlub asteroid impact or the massive eruption of the Deccan Plateau flood basalts, or a combination of both, that killed the dinosaurs! Likewise to above, see coloscisoc.org for details.

Nov 11-13: New Mexico Mineral Symposium, Socorro NM

Nov 18-20: Denver Area Mineral Dealers Show, Jefferson County Fairgrounds.

Dec 9-11: Flatirons Gem and Mineral Show, Boulder County Fairgrounds (Double check these dates—club website still only lists 2021 show dates).

President's Corner

John Massie
CSMS President

2022 Satellite Group Chairs

Kevin Witte/ Bob Germano, Crystals
John Massie/ Bertha Medina, Faceting
Jerry Suchan/ Joy Price, Fossils
Vacant, Jewelry
Sharon Holte, Lapidary
Vacant, Micro-mount
Vacant, Photography
David St. John/ Hair/ Elick, Pebble Pups

2022 Liaisons

Florissant Fossil Beds National Monument:
S.W. Veatch

Western Museum of Mining and History:
S.W. Veatch

Presidential Matters

A message from CSMS President John Massie:

I would like to remind everyone about the upcoming election for the 2023 board of directors in November. The nominations will take place at the October meeting.

The vote for the Rock Hound of the year will be held at the October meeting,

I want to remind you that we split the alphabet in half to bring treats for the break at the meeting. Please check the Pick and Pack to see when it's your turn to bring treats.

John Massie
CSMS President

Secretary's Spot

John McGrath

2022 CSMS Officers

John Massie, President
Rick Jackson, Vice-President
John McGrath, Secretary
Ann Proctor, Treasurer
Adelaide Bahr, Membership Secretary
John Emery, Editor
Chris Burris, Member-at-Large
William Meyers, Member-at-Large
Sharon Holte, Past President

2022 CSMS Chairpersons

Rick Jackson, Program Coordinator
John Massie, Show Vol Coordinator
Kyle Atkinson, Field Trip Coordinator
Vacant, Science Fair Chair
Frank and Ellie Rosenberg, Librarians
Mark Schultz, Social Committee Chair
Ann Proctor, Store Keeper
Lisa Cooper, Show Chairman
Lisa Cooper, Webmaster
Lisa Cooper, Facebook Keeper
Mike Nelson, Federation Rep
Vacant, Federation Rep

CSMS General Assembly Minutes

7 PM, Thursday 15 Sep 22, Mt Carmel Vet Center, Co Sp

Address: 530 Communications Circle, Colorado Springs CO 80905
Board Attendance: President: John Massie, Past President: Sharon Holte, Vice President: Rick Jackson, Member-at-large: Bill Meyers, Member-at-Large: Chris Burris, Secretary: John McGrath, Editor: John Emery
Agenda:

I. Meeting was called to order by our President John Massie at 7:03 PM
II. The Pledge of Allegiance was led by President John Massie
III. Introduction of Guests: None
IV. Introduction of New Members: 4 new members, Dale Ward, Chris Crick, Rose Rowan, Ralph and Sue Bancroft, Jennie McGuckian.
V. Program Speaker introduced by VP Rick Jackson -Mike Nelson, CSMS member spoke to us about his life and times as a Geologist and Rock Hound focusing on Utah.
   A. He grew up in Kansas in a small town and worked on his uncle's farm.
   B. Majored in Geology at Fort Hays State in Kansas and then completed his Masters in the University of South Dakota.
   C. Worked at University of Utah focusing on vertebrate fossils.
   D. Returned to Fort Hays State in 1970 to teach and spent the next 21 summers with students and Family studying and exploring Utah
VI. Meeting - There were 26 members in attendance and 6 minerals were given out.
VII. Officer Reports
   A. President - John Massie
      1. Need one more member of the Nominating committee to join Frank and Ellie Rosenberg. They will present nominations in October
      2. Rock hound of the year nominations are open. The vote will take place in Oct
      3. He gathered the Board Members present to consider presenting New Members on their first visit with a Specimen. This was approved unanimously.
   B. Vice - President - Rick Jackson - Present, no report
   C. Treasurer Ann Proctor- Absent, no report
   D. Secretary John McGrath - Present, no report
   E. Membership Secretary - Adelaide Bahr - Absent, No report
   F. Editor - John Emery, reported two awards received for Mike Nelson and John Emery for published articles and the Pick and Pack.
   G. Members at Large
      1. Bill Myers - Present, no Report
      2. Chris Burris - Present and reported that the Mt Antero trip the previous weekend was outstanding.
   H. Past President - Sharon Holte - Present, no report
   I. Website and Show Coordinator - Lisa Cooper, absent
VIII. Satellite Groups
   A. Crystal Group - Kevin Witte, absent, but there is a meeting planned for the 4th Thursday of the month at the Mount Carmel Center.
   B. Faceting Group - John Massie reported he's scheduling use of faceting machine. He'll train basics and loan machine for 30 days.
   C. Pebble Group - Steven Veatch, absent. David St John, present and reported 2 homeschoolers were present for the meeting. He recently passed out many fliers at Cripple Creek Donkey Days. He solicited donations of kitty litter buckets and mineral samples for his group. He also reported that during Fossil Week on October 11th he'll be teaching 70 Scouts and needs members to man the 3 different stations. Expert knowledge not required. Oct 11 - Fossil Week, 70 scouts, need members to present at 3 different stations.
   D. Fossil Group - next meeting 2nd wednesday 6-7:30 at the East Library Annex. John M will show up and present 2 boxes of fossils for the Group to evaluate. The earlier than usual start time was due to the Library's 8pm closing time.
   E. Jewelry Group - still in need of a Chairperson
   F. Lapidary Group - Sharon Holte reminded members that she was available for phone calls to schedule use of the club's rock saws on Sunday night after 6:30 pm.
IX. Liaisons
   A. Claims - Frank Rosenberg reported that the paperwork for the 3 claims had been successfully filed.
   B. Field Trip Coordinator - Kyle Atkinson, absent. Frank Rosenberg reported that there was one more Field Trip to the Club's Rocky Mountain High claim on 24 Sep22.
   C. Social Coordinator - Mark Schutz. Present and again thanked everyone for the plentiful food. John Massie reminded everyone that the responsibility for the food by the first letter of the last name was recorded in the Pick & Pack each month.
   D. Store Keeper - Ann Proctor, absent
X. Unfinished Business - None discussed.
XI. New Business -
   A. The Christmas Party will be the 3rd Thursday in December and will be a PotLuck. The Club will provide the meat dishes.
   B. Geocaching - John Massie and John Emery reviewed Geocaching and solicited volunteers to take on this task. The desire was to use this venue for marketing and recruitment.
   C. Door prize drawing - All New Members received a door prize specimen along with 2 other members.
XII. Meeting adjourned by CSMS President John Massie at 8:41 PM

Respectfully Submitted
John M McGrath MD COL (RET) USA

AFMS ENDOWMENT FUND

I am the Rocky Mountain Federation Regional Chairman for the AFMS Endowment Fund. Cheryl Neary, a member of the Eastern Federation, is the AFMS Endowment Fund Chair and also the AFMS Central Office Administrator.

Basically, this is a raffle drawing with tickets being sold at $5 each or five tickets for $20. The drawing will be held at the RMFMS/AFMS Convention in New Orleans, Louisiana in October. People from around the American Federation donate prizes for the raffle – they may be jewelry, crystals, minerals, fossils, books, or other items, the value of which range generally from $75 to $200. The drawing is handled so that there is at least one winner from each of the seven regional federations; last year we had five winners from the Rocky Mountain Federation.

As items are donated, pictures of them will appear in the AFMS Newsletter and on the American Federation Website <amfed.org>. There are generally around 30 items.

This is a major way to financially support the American Federation's efforts on behalf of our hobby. Currently the funds go towards the Junior Rockhound Program, Judges Training, and preparing Programs for distribution to Regional Federations which can be used by individual clubs. Over $4,000 was raised last year. Cheryl requests that the checks be sent to the regional chairs so that we may issue tickets and have a record of who has entered. Checks should be made payable to the "AFMS Endowment Fund." We then forward those checks to Pat LaRue, the AFMS Treasurer. I will fill out the proper number of tickets for each contribution, send the stubs to the donating individual, and get the tickets to the RMFMS/AFMS Show in New Orleans from October 14-16, to be put into the RMFMS bag. There will be at least one general prize ticket, maybe two or three, drawn from each of the bags for the seven regional federations. After that, all tickets will be dumped into one bag, and further drawings will take place until all the prizes have been awarded.

I hope that many of you will participate and hopefully be winners in New Orleans; but you need not be present to win. I would also be happy to accept any donated prizes for the raffle or they could be sent directly to Cheryl Neary; the more prizes, the more winners, and hopefully, more money raised. Cheryl's address is: 42 Jefferson Ave., Patchogue, NY 11772. I and my wife Linda are each donating a piece of jewelry for the Endowment Fund prizes. My contact information is provided below. Please share this information with your club members and thanks for your consideration.

Please purchase some tickets – and hopefully get your ticket drawn in New Orleans in October.

Richard D. Jaeger
3515 E. 88th St.
Tulsa, OK 74137-2602
918-481-0249
RjgrSci@aol.com

AFMS SCHOLARSHIP FOUNDATION

The AFMS Scholarship Foundations provides $4,000 scholarships to two students in each of six of the Regional Federations. The RMFMS chooses an Honorary Scholarship Awardee who chooses the two Geology graduate students who receive the scholarships.

This year our Honorary Awardee was Dr. Simon Jowitt who is a geology professor at the University of Nevada, Las Vegas. The UNLV geology graduate students he chose to receive the scholarships were Dalton McCaffrey and Thomas Boes. Since our RMFMS Show & Convention was held in Las Vegas we were fortunate enough to have all three of those individuals attend our Award Banquet and speak to us about their work and studies in geology.

Next year our RMFMS Show will be in July in Casper, Wyoming. We need to have an Honorary Scholarship Awardee appointed so that the two students to receive the $4,000 scholarships can be selected. Hopefully the professor and students chosen will be able to attend our Awards Banquet at the convention in Casper.

Any Rocky Mountain Federation Club or any individual member may submit a person for nomination for the Honorary Award Recipient. We need a short bio on the person telling us why you are nominating them for the Award. Please submit your nomination to me at the address below. Contact me with any questions you may have.

Richard Jaeger
RMFMS Scholarship Chairman
3515 E. 88th St.
Tulsa, OK 74137-2602

About the AFMS - A non-profit educational federation of seven similar regional organizations of gem, mineral and lapidary societies. The purpose of AFMS is to promote popular interest and education in the various Earth Sciences, and in particular the subjects of Geology, Mineralogy, Paleontology, Lapidary and other related subjects, and to sponsor and provide means of coordinating the work and efforts of all persons and groups interested therein; to sponsor and encourage the formation and international development of Societies and Regional Federations and by and through such means to strive toward greater international good will and fellowship. Founded in 1947.

About the RMFMS - A non-profit educational organization. The purpose of the Rocky Mountain Federation is to have a close association of all clubs in the Society to promote the study of earth sciences, including the lapidary arts, the study of fossils and paleontology, and related crafts. The RMFMS was organized in 1941, and held its first annual convention at the Argonaut Hotel in Denver, Colorado. There were 16 organizations in attendance. The RMFMS became one of the original four founders of the American Federation of Mineralogical Societies when it was organized in 1947.

A Hope that Flows
By Blake Reher

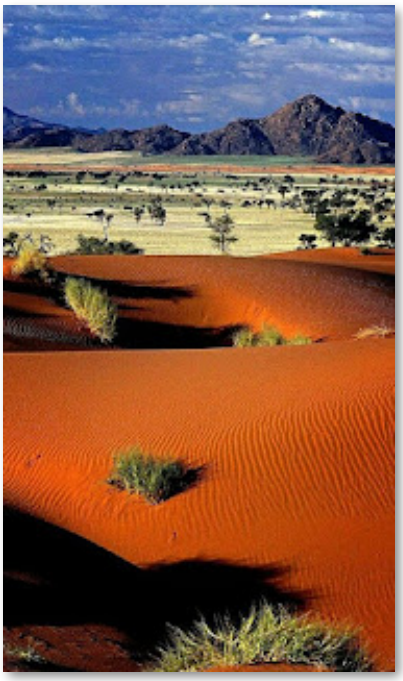
The cold creek twists and gurgles as if flows.
A murder of crows fly overhead, clouds roll by.
At the water's edge an old man bends down
to pick up a rock that sparkles. A glint of promise.
It's long past the days of gold, but the creek still flows—
and so does his hope.

A creek running through a western landscape. *Image by Pete Linforth from Pixabay.*

Editor's note: This poem celebrates Earth Science Week: October 9 - 15, 2022

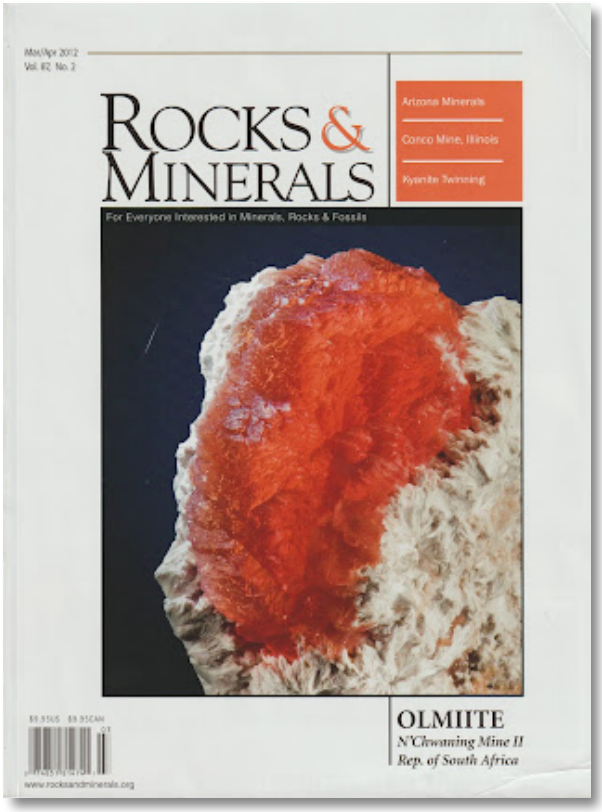
THE DESERT
Hot Kalahari
Mining dark black manganese
Finding pink olmiite

By Mike Nelson



Above: A section of the Kalahari Desert, southern Africa. *Public Domain photo.*

This last fall I was able to purchase, at a great price, several back issues of *Rocks and Minerals*, issues starting before my subscription begin. I enjoy, immensely, reading the journal from cover to cover. The May/April 2012 issue had, as its cover photo, a specimen of olmiite, a newly discovered mineral (2007) from the N'Chwaning Mine II, Kalahari manganese fields, Republic of South Africa. I thought the mineral and photo were pretty spectacular and decided to look for such while touring the Tucson Shows in February. I was always peering at the different booths and tables and was about ready to admit defeat when there it was, olmiite in a perky box on a table with many other thumbnails. The proprietor told me he wasn't certain what olmiite was except a manganese mineral. He originally had two specimens but had sold one and since the show was drawing to a close I could have it for half price, $7. I grabbed it out of his hand and handed him the cash. At least it seemed like a good deal to me.



Above: The photo that started it all!

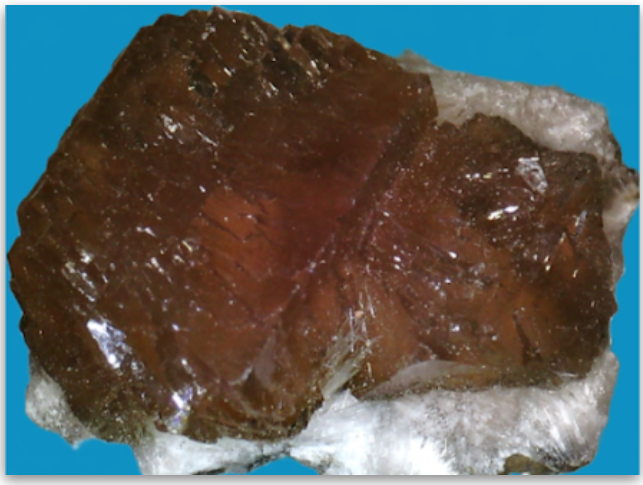
I was interested in the mineral, not only for its good looks, but also due to its rarity. According to MinDat most olmiite specimens on the market have from the N'Chwaning Mine II, the Type Locality, but a few specimens are known from the nearby Wessels Mine (four photos in MinDat) and N'Chwaning III Mine (one photo in MinDat). Olmiite is also listed by MinDat as being found in the Långban Mine (no photos) in Sweden. For a little interesting trivia, note that the iron ore and manganese mining at Långban has produced ~300 different minerals and is the Type Locality for ~60!

The Kalahari, home to the N'Chwaning and associated mines is the world's most prolific producer of manganese (and also home to a famous desert). The deposits are in the Hotazel Formation of Proterozoic age (Precambrian) and are the largest land-based (deep sea deposits are larger but nearly impossible to mine) sedimentary manganese deposits in the world, perhaps covering ~425 sq. miles. The ore has been subjected to both hydrothermal alteration (temperatures up to 450°C) and to metamorphism. The origin of the giant manganese deposits has been debated for many years but remain controversial:

> *"Proposed models cover a diverse spectrum of genetic processes, from large-scale epigenetic replacement mechanisms, to submarine volcanogenic-exhalative activity, to purely chemical sedimentation whereby the influence of volcanism is of reduced significance"* (Tsikos and Moore, 2006).

Olmiite, $CaMn^{++}[SiO_3(OH)](OH)$, is best known for its reddish pink color (pale to intense) but also occurs in various shades of raspberry, honey, pinkish tan, white to gray, while the crystals at N'Chwaning III are gemmy clear and some at Wessels are translucent clear. However, the reddish pink is the color that sticks in the minds of collectors.

Orthorhombic olmiite, a product of hydrothermal alteration, is transparent, has a vitreous luster and a white streak; hardness is ~5.0 - 5.5 (Mohs). Crystal habits include prismatic, spherical radial bundles, crystal sprays and what has been termed wheat-sheaf-like aggregates. The olmiite in my collection, as with most other olmiite specimens, has a deep red fluorescence under short wave UV.



Above: Olmiite with white crystals of bultfonteinite. Width FOV ~1.3 cm. *Photo: M. Nelson*

A closely related mineral termed poldervaarite is the manganese analogue of olmiite and they have a solid solution relationship and a long history of misidentification. Robert Cook, in the 2012 *Rocks and Minerals* article, articulates a great story about the history and discovery of these two minerals and presents some nice photos. Great reading.

My specimen of olmiite, as do many others, is associated with a little-known mineral (at least to me) named bultfonteinite, a fluorine bearing calc-silicate---$Ca_2(HSiO_4)F-H_2O$. Calc-silicates are rocks, or their composing minerals (common minerals include diopside, wollastonite, the "garnets" grossular-andradite, and epidote) that usually form in high-temperature, contact metamorphic zones where a mafic magma (high magnesium and iron content, low silica content) intrudes into limestone or other carbonate rocks, as in a skarn. The Type Locality of bultfonteinite is at the famous

diamond-bearing kimberlites in present-day Kimberley, Northern Cape, South Africa. Bultfonteinite was first found in a large, isolated block of dolerite (an igneous rock like basalt)) and shale fragments that were enclosed in a kimberlite pipe. These pipes consist of an igneous rock known as peridotite (lots of iron, silica, olivine, amphibole, magnesium) that form deep within the earth's mantle and then rapidly and violently eject to the surface. Evidently the ejecting pipe picked up this large hunk of dolerite and shale on its way to the surface. In the U.S. bultfonteinite is uncommon but is found in the famous calc-silicate rocks from the Crestmore Quarries in California.

Bultfonteinite is usually found as small, transparent, colorless to pale pink or white, radiating prismatic acicular crystals. Crystals are vitreous, have a white streak and a hardness of ~4.5 (Mohs). They seem to look like many other white acicular globs of crystals I have seen since beginning my quest for nifty micromounts and thumbnails. A little trivia. The manganese in South Africa is mined from the Precambrian Hotazel Formation. The rocks are named for the Hotazel, a town that serves the mines. Thinking of the Kalahari Desert one probably knows that the temperatures may be quite warm, almost as "hot as hell."

Above: Prismatic acicular crystals of bultfonteinite associated with olmiite shown above. Width FOV: top (spray) ~1.5 mm, middle ~1.1 cm, bottom ~1.0 mm. *Photos: M. Nelson*

REFERENCES CITED

Cook, R. B., 2012, Connoisseur's Choice, Olmiite: Rocks and Minerals, Vol. 87, No. 2.

Tsikos, H. and J.M. Moore, 2006, The chemostratigraphy of a Paleoproterozoic MnF- BIF succession -the Voelwater Subgroup of the Transvaal Supergroup in Griqualand West, South Africa: South African Journal of Geology, v. 109.

General Assembly
15 Sep 22

26 hardy rockhounds gathered on a starry night in Colorado Springs. Beloved club member and geologist Mike Nelson came and talked to us about what “peripatetic” means (see pic) and the fascinating geology of beautiful Utah. Master rockhounds Chris Burris and John McGrath brought in specimens from their latest adventures. We welcomed four new club members. Six lucky rockhounds got picked to win a free mineral sample. Thanks Mike Nelson for a fun and magical night!

A Tree through Time

Essay by
Steven Wade Veatch

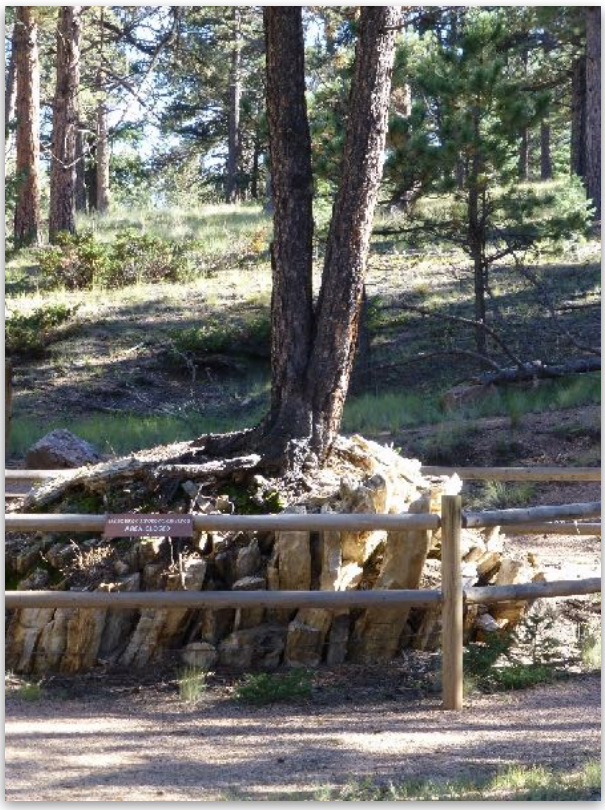
Thirty-four million years ago on a dismal Eocene afternoon near present-day Florissant Fossil Beds National Monument in central Colorado, woodland creatures fled as the ground shook from a fiery power held deep within the Earth. This dark force manifested on the surface, where toxic gases, ash, and molten rock shot through open vents —filling the air. A red glow painted the sky as cinders rained down through the smoky, sulfurous air onto the landscape. Flows of searing lava, which can reach 2,000 degrees Fahrenheit, oozed from volcanic vents, burning everything in their path.

Following this concentrated chaos, hot ash and mud raced down the slopes of several volcanoes. Swirling mudflows pulled in surface materials, knocked down and carried small trees with their root wads, and then surrounded the bases of towering redwood trees. After frequent periods of active eruptions, the volcanic complex ultimately quieted down to dormancy and peaceable extinction. The mud that encased the bases of the redwoods enabled the slow petrification process to begin. The wayward mudflow also dammed a prehistoric stream and quickly formed a lake. Plants, insects, and other organisms were trapped in the lake sediments. As time passed, the lake sediments turned into shale containing fossils of these organisms.

Today, enormous redwoods grow at their ecological limit in a narrow zone along the California and Oregon coasts. Redwoods still exist at the Florissant Fossil Beds National Monument, but only as fossil leaves, cones, or petrified stumps. It would be impossible for redwoods to grow today in Florissant's cool, temperate highland climate. Redwoods reached towering heights in Florissant's Eocene past, when the climate was warm and temperate.

* * *

There is a remarkable site at the monument where a singular fossil redwood stump endures despite the unavoidable and inexorable power of erosion and weathering. This petrified redwood base is unique among the others: It has a ponderosa pine tree growing from its stone center. I have always been spellbound by this juxtaposed image—the prehistoric stone stump with a living ponderosa tree growing out of it. I wanted to look at it again and make a deeper connection with this geological marvel.



Above: A living ponderosa pine tree grows from an ancient redwood that has turned to stone. *Photo date 2013 by S. W. Veatch.*

As I walked on a trail to its location, Pikes Peak loomed in the distance. I passed a long, low, grass-covered meadow bounded by treed hills. A green swath of lichen-capped rocks fringed the trail. As I neared the scene I sensed a weight to the afternoon: windy weather brought a grey, clouded sky that rolled over the land. The warm, heavy smell of rain soon rose from the wet and glistening forest floor. Glittering drops of water rested on leaves. The wind began to whistle through the trees while flowers of sky-blue flax nodded. As the rain clouds broke up, an elk wandered this high stretch of land while a coyote trotted by.

Above: A blue flax blossom at the Florissant Fossil Beds National Monument. *Photo date 2003 by S. W. Veatch.*

When I reached the fossil redwood, I sat down on a bench to soak in the experience. As I looked at this remarkable remnant of a primeval redwood I noticed patches of soft, velvety, emerald green moss gripping sections of the petrified stump. There are small forest sounds: a bird chirps in the distance while a chickadee croons a love song from a place deeper than daydreams. A jay scolds me from the safety of a high branch overhead. There are little rustlings in a tree behind me where a black, tufted eared Abert's squirrel worries a pinecone. These sights, sounds, and smells make me content, and mark this natural place as special.

* * *

Fossils are the letters that form words in a geologic story. Together, these words complete the pages of the area's paleontological record: messages from a distant time telling a story of plants and animals that once lived here and are now gone. The pages document the broader climate and the ecosystem it supported. Most importantly, these intimate histories— written in stone— yield a narrative of how an ecosystem responds to climate change. The Eocene marks the start of a gradual global cooling.

The secrets of deep time are exposed in fossils on pine covered hills and grassy meadows of Florissant. At the Florissant Fossil Beds lie some of the world's richest fossil deposits, remnants of life ranging in size from a tiny grain of pollen to massive redwood trees. Time is no longer the trickster under Florissant's vast summer sky; instead, time is captured as a memory in each fossil and is brought forward to the present, where these vital fossils reveal a primeval Eocene ecosystem. I immersed myself in its story.

Above: Big Stump. Florissant Fossil Beds National Monument. *Photo date 2020 bv S. W. Veatch.*

Pebble Pups
David St. John

CSMS Pebble Pups and Earth Science Scholars

Greetings Pebble Pups and Earth Scholars, our September 15th meeting was on The Rock Cycle, and we learned about the three rock types Igneous, Metamorphic, Sedimentary, and explored real rocks and minerals that we could touch and discover. We had a mountain of learning everyone had so many questions and added to their collection with rock samples. In August we had a field trip to the Western Mining Museum which is free to members with your membership card.

Outreach programs

We had STEM camp presentations for the WMM in July and August with a great group of students that were really engaged with the Earth Science topics and experiments. We also partnered up with the Lake George Mineral club for Donkey Derby Days which we passed out over a hundred flyers and free samples. Big thank you to Betty Merchant who continues to serve in so many ways. We will have two events in October for 70 scouts and Garden of the Gods Visitor Center on the Fossil Week 10 -15. Our booth will be open on the 15th at 10-3 and there will be talks and great booths through out like Corral Bluffs, Fossil beds, and Western Interior Paleontology.

Congratulations to two of our Pups/Scholars

We are so proud of 1st place winner Joshua Hair for his poetry, and Ben Elick for essay by the Rocky Mountain Federation of Mineralogical Societies. We hope college is going well for you Ben. I miss your help but excited for your future. Shout out to Steve Wade Veatch for his adult poem and leadership for our Pups/Scholars past and present as a mentor.

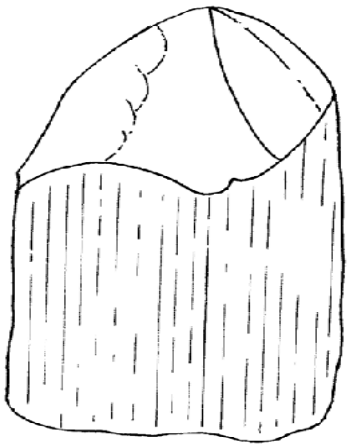
Please remember our club submits poems each year on an Earth Science topic. Be inspired, find a picture and write a poem. Please turn in to David ST. John Fossilfun14@gmail.com.

October Meeting 10/20/2022

We will be discovering our only Dinosaur known to Colorado Springs found in the Garden of the Gods in 1878 by geology professor James Kerr at Colorado College. It was obtained by O.C. Marsh and lost at Yale Peabody Museum for over a hundred years. Come and learn more of how the mystery unfolded. 5:30 -6:15 with real dino bones from UK and museum replicas.

Mineral of the Month Topaz

Topaz is a silicate mineral of Aluminum and fluorite and considered a valuable in most cases. Topaz is considered a gemstone and mostly considered for jewelry, but the natural crystals are also collected and desired. In its natural state it is colorless, but trace elements can make it pale blue, golden brown to yellow. Topaz can be treated with heat and radiation to create colors like purple, reddish-orange, deep blue, green, and pink (it can on rare occasion be these colors naturally). It is an 8 on the hardness scale with a vitreous luster. Our club has collected Topaz on our club field trips during the summer.

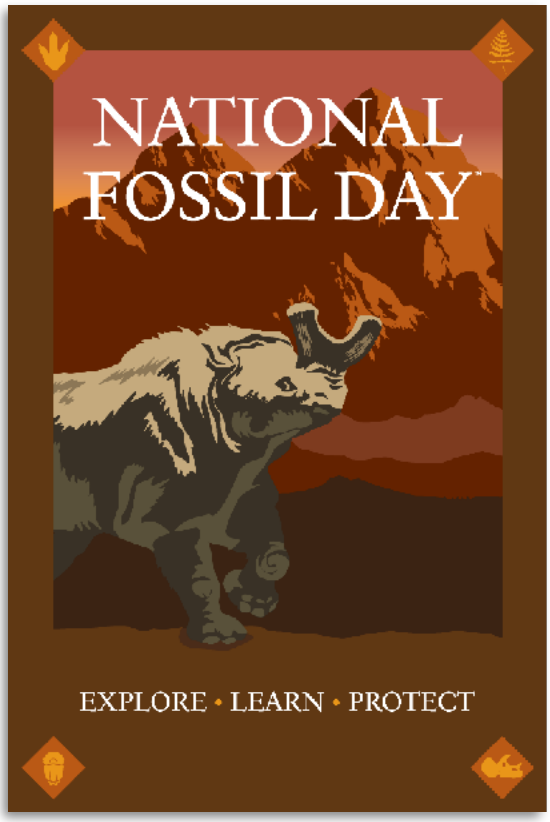


Color the Topaz your favorite color.

Fossils
By Steven Wade Veatch

Fossils.
Mammoth bones,
petrified trees,
insects trapped in amber,
pine pollen, a moss spore,
impressions in paper-thin shale,
stony steps of a dinosaur trail.

Just fragments of time,
puzzling pieces, vestiges
in layered ground:
A kingdom come,
a realm now gone,
past worlds in stone.



National Fossil Day™ is October 12, 2022

Fossil branches of the Florissant redwood, *Sequoia affinis*. Specimen FLFO-4858 from the collection of Florissant Fossil Beds National Monument. *Image date Oct 2003 by S. Veatch.*

John Emery
Editor

Thanks to our contributors. We encourage everyone to submit articles, photos, illustrations or observations.

Share your experiences, your new finds, or simply your enjoyment of our last field trip.

Handwrite it, type it, or email it. Format does not matter. All submissions are welcome. The DEADLINE for items to be included in the next Pick & Pack is the **last day of the month.**

To submit an item:
For hardcopy photos or articles, mail to the address below or bring them to the General Meeting. All hardcopy photos remain the property of the submitter and will be returned. Electronic photos can be submitted at resolutions above 200 dpi in ANY format.

Feature articles can be in MS Word or Mac Pages, preferably NOT pdf.

e-mail to the editor:
csmseditor@hotmail.com Mail to:
Pick & Pack Editor PO Box 2
Colorado Springs, CO 80901

The PICK & PACK is published ten (10) times per year (no issues in January or August). Unless otherwise marked, materials from this publication may be reprinted. Please give credit to the author and CSMS PICK & PACK.

Assessing the role of the Deccan Traps in the end-Cretaceous mass extinction

Blaine Schoene, Professor of Geology, Princeton University

Colorado Scientific Society 2022 Emmons Lecture
Thursday, October 6, Room 241 Berthoud Hall, CSM campus
6 to 9 PM; lecture at 7 PM
ALL ARE WELCOME

The end-Cretaceous mass extinction is the only extinction event known to correlate with both volcanic activity from a large igneous province and a meteorite impact. Given the strong correlation between other mass extinction events and large igneous provinces, we have been carrying out high-precision U-Pb geochronology to establish the rates of eruptions across the extinction interval. Our work has shown that the vast majority of the Deccan Traps eruptions occurred within 1 Myr as series of large pulses that bracket the meteorite impact and mass extinction. While this work has substantiated and added details to the idea that volcanic pulses could have affected climate and contributed to the mass extinction, there remain large uncertainties in terms of magmatic and thermogenic volatile release, volumes of erupted lava, and the preserved geology of the province. Further quantifying these uncertainties should be a target of future work in order to understand how the Earth system responded to catastrophic volcanism, a meteorite impact and ecosystem collapse.

Blair Schoene is a Professor in the Department of Geosciences at Princeton University, where he is a geologist and geochronologist. His research investigates the rates and timing of geologic events throughout Earth history, from understanding volcanic and tectonic processes, to correlating mass extinction events with the possible causes and consequences. He got a B.S. in 1999 from The Colorado College, and a PhD from the Massachusetts Institute of Technology in 2006. Following a 3-year postdoc at the University of Geneva, Switzerland, he joined the faculty at Princeton, where he has been director of an isotope geochemistry and geochronology lab that focusses on high- precision U-Pb geochronology. His work on the Deccan Traps and the end-Cretaceous mass extinction began in 2013 and has resulted in numerous scientific publications, some of which have been featured in numerous media outlets, including the Washington Post and the New York Times.

Attend live or via Zoom

https://us02web.zoom.us/j/82529991801?pwd=djYxa0J5R01ZNVVuVitWS0J6UWlSUT09

Meeting ID: 825 2999 1801 Passcode: 069227

Igneous Mystery
By Blake Reher

Another mystery to be solved,
How our planet has evolved.

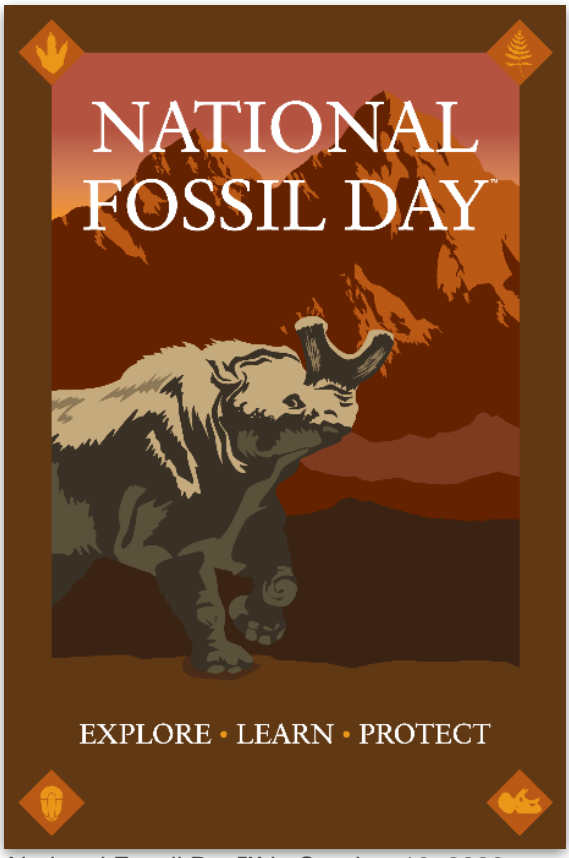
Once it was a tree,
Now hidden in debris,

Buried at 3,000 feet,
Gold mining in Cripple Creek.

Cast aside in a heap,
Curious rock from the deep.

Carbonized not permineralized,
Fossil specimen highly prized.

Amazing discovery,
For the world to see.



National Fossil Day™ is October 12, 2022

EARTH SCIENCE WEEK

Left: The author has his right hand on a section of a fossilized tree trunk embedded in an igneous rock. While on a field trip, he discovered this specimen on a on a dump of rocks at the Cripple Creek and Victor Gold Mine on October 4, 2014.

A Rock

By David St. John

Colorado Yule Marble is the Colorado State Rock.
Photo credit: eReferenceDesk.com.

A rock can be common or rare and unique

Most rocks combine minerals like the granite of Pikes Peak

A rock can be rough, round, or smooth like a fossil bone

It can be shiny or dull like an ancient stone

A rock can be as big as Ayers Rock the size of a mountain

Weathering can break down rock the size of a pebble tossed in a fountain

A rock can cycle to Igneous, Metamorphic, and Sedimentary in geological history

The Earth is ever changing that's a fact, yet so many things remain a mystery

A rock can be collected, polished, shared, discovered, and sold

To rockhounds a rock can be a myth or a legend or a story yet untold

A rock can be wet in a stream or dry crunching under your feet

Rocks can be found in gardens or most places we meet

A rock can be a treasure that we call a keeper

It is always waiting to be found if you just use your peepers

Editor's note: This poem celebrates Earth Science Week: October 9 - 15, 2022

Established 1936
MINERALOGICAL SOCIETY

Pick & Pack
P.O. Box 2
Colorado Springs, CO 80901-0002

CSMS is an incorporated nonprofit organization with the following goals:

- To promote and disseminate knowledge of the earth sciences, especially as they relate to mineralogy, lapidary, and fossils.
- To encourage study, collection, and fashioning of minerals.
- To accomplish the same through social meetings, lectures, programs, displays, shows, and field trips.
- The Pick & Pack newsletter is published 10 times each year to assist and promote the above.

Joining the Colorado Springs Mineralogical Society (CSMS):

- Meetings are held the third (3rd) Thursday of each month, except January & August.
- 7:00 PM at Mt. Carmel Veterans Service Center; 530 Communication Circle, Colorado Springs, CO 80905
- Visitors are always welcome.
- Individuals—$30, Family—$40, Juniors—$15, Corporate—$100.
- Find the application at the web site: www.csms1936.com**.** If you are interested in joining CSMS or would like more information, we encourage you to attend our next General Meeting or visit our web site.

Meetings: CSMS also offers Satellite Group meetings that allow more focused attention in specific areas of our members' interests. Our current Satellite Groups consist of the following: Crystal Study Group, Faceting Group, Fossil Group, Lapidary Group, and Pebble Pups/ Juniors. For details on Satellite Group meetings, check out the calendars on page 2 and the web site.

Membership Benefits: Yearly dues include 10 issues of the *PICK & PACK*, all field trips (additional fees may be required on some field trips, and members are responsible for all transportation to and from), participation in all Satellite Groups (some groups may request additional fees to help cover resource costs), free admission to the *Western Museum of Mining & Industry* (carry your card), a year of learning and enjoyment, plus a lifetime of memories.

Colorado Springs Mineralogical Society is a Member of the following organizations:

- American Federation of Mineralogical Societies (AFMS) www.amfed.org
- Rocky Mountain Federation of Mineralogical Societies (RMFMS) www.rmfms.org