

# **CSMS General Assembly**

# Thursday, February 20, 7:00 PM

## **Mt. Carmel Veterans Center**

Speaker: Richard Sauers,

The Hidden History of the Cripple Creek Mines Please note: Members whose names begin with A-L are responsible for refreshments in February \*\*In case of inclement weather please call Mt. Carmel

Veteran's Service Center 719 309-4714

Colorado Springs Mineralogical Society *Founded in 1936* Lazard Cahn Honorary President February 2020 PICK & PACK Vol 60 Number 1

#### Inside this Issue:

CSMS Calendar Events	Pg 2
Upcoming Events	Pg 4
Michigan Pudding Stone	Pg 4
Yooping Good	Pg 5
Pebble Pups Corner	Pg 6
Fossil Dig	Pg 8
Crystal Vug	Pg 9
Secretary's Spot	Pg 10
Adult Rockhound of 2020	Pg 10
President's Corner	Pg 11
Facetor's Cut	Pg 11
Ancient Weevil Pupal	Pg 12
Constitution Changes	Pg 13
Amendments	Pg 14
Classifieds &	Pg 15
Announcements	Pg 15



A native of Lewisburg, PA, Richard A. Sauers received his B.A. in history from Susquehanna University, and both his M.A. and Ph.D. in American History from The Pennsylvania State University, with minor fields in American Cultural Geography and Byzantine History. Sauers is the author of more than two dozen books, including the highly-acclaimed two -volume Advance the Colors! Pennsylvania Civil War Battle Flags (1987-1991), A Succession of Honorable Victories: The Burnside Expedition in North Carolina (1996), Meade: Victor of Gettysburg (2004), and The Fishing Creek Confederacy: A Story of Civil War Draft Resistance (2013). Sauers has been in the public history arena since 1984, serving currently as the curator of the Western Museum of Mining & Industry in Colorado Springs. He is currently working on a study of the Cripple Creek gold mines.

COLORADO SPRINGS MINERALOGICAL SOCIETY PO BOX 2 COLORADO SPRINGS, COLORADO 80901-0002

# **CSMS** Calendar

# February & March 2020

February	March					
02/04/20	03/03/20	Fossil Group	1st Tues.	Pikes Peak United 7:00 p.m. Methodist Church	Jerry Suchan	303-648-3410
02/06/20	03/05/20	Board Meeting	1st Thur.	Pikes Peak United 7:00 p.m. Methodist Church	John Massie	719-338-4276
02/20/20	03/19/20	Pebble Pups, Juniors	3rd Thur.	5:30 p.m. Mt. Carmel Center	Steve Veatch	719-213-1475
02/20/20	03/19/20	General AsslyMeeting	3rd Thur.	7:00 p.m. Mt. Carmel Center	John Massie	719-338-4276
02/27/20	03/26/20	Crystal Group	4th Thur.	7:00 p.m. Mt. Carmel Center	Kevin Witte	719-638-7919
02/27/20	03/26/20	Faceting Group	4th Thur.	7:00 p.m. Berta's House	John Massie	719-338-4276
		Lapidary Group	by appointment	Sharon's House	Sharon Holte	719-217-5683

For more information on any of the sub-groups, meetings, and other CSMS valuable information, go to our website: www.csms1936.com

# Upcoming Events of Interest to CSMS Members Submitted by Pete Modreski

Mon., Feb. 10, 11:30, Denver Mining Club weekly meeting, Martin Palkovic, Colorado Geological Survey, Cretaceous Sedimentary Bedrock and its Impact on Uranium Concentrations in Irrigation Return-Flows to the Arkansas River, Southeastern Colorado. Golden Corral Buffet & Grill, 3677 South Santa Fe Dr., Sheridan, CO (southwest side at Santa Fe Dr. & Hampden Ave.). All are welcome; purchase of lunch is required for entry; meeting runs from 11:30 to 1:00.

**Tues., Feb. 11,** 7:00 p.m., Western Museum of Mining & Industry, Colorado Springs, February Lecture Series, **"Industrial Minerals All Around Us",** by David Abbott. "Industrial minerals are major components of most products we use on a daily basis: bricks & concrete, building stones, wallboard, glass, ceramics and sand paper. They are found in cleaning products like Soft Scrub, many cosmetics and even the table salt we eat!" The monthly lecture series is free to WMMI Members, \$5.00 for guests. To RSVP to attend a lecture call 719-488-0880 or email rsvp@wmmi.org.

**Feb. 13-16, 66<sup>th</sup> Annual Tucson Gem and Mineral Show,** sponsored by the Tucson Gem and Mineral Society (TGMS), Tucson Convention Center, Tucson, AZ. This is "the main show" in Tucson; many of the other, commercial shows, in the city are already open and have been for the past week or more.

Sun, Feb. 16, noonish, at the monthly FSS (Florissant Scientific Society) meeting, Jay Temple (geologist) and Jennifer Heiny (Garden of the Gods Visitors Center) will give a presentation "Behind the Scenes at Garden of the Gods", followed perhaps by a short field trip. Meeting place and exact time TBD. All are welcome to attend—the FSS has no formal membership, other than an email list of persons interested in geology. Contact Beth Simmons, cloverknoll@comcast.net, for details or to be put on the FSS mailing list.

Tues., Feb. 18, 10:30-11:30 a.m., USGS Rocky Mountain Science Seminar, Global metal resources; land of plenty or are we running out?, Dr. Simon Jowitt, University of Nevada, Las Vegas. Building 25 auditorium, Denver Federal Center, Lakewood CO.

Continued pg 3

February 2020

**Tues., Feb. 18,** 3:00 p.m., Denver Museum of Nature and Science M. Ray Thomasson Earth Sciences Colloquium, **Last gasp of the Cretaceous: Insights from North Dakota**, Clint Boyd (North Dakota Geological Survey). The DMNS Earth Sciences Department has named its 2020 Colloquium series in honor M. Ray Thomasson, a longtime Earth Sciences volunteer at the museum. Link to the series schedule for the whole year: <u>https://</u> <u>sites.google.com/view/dmnsdes2020colloquiumschedule/home</u>

Thurs., Feb. 20, 7:00 p.m., Petrologic evolution of Platoro magmatic system after the eruption of the Chiquito Peak **Tuff, San Juan Volcanic Locus, Colorado,** by Amy Gilmer, US Geological Survey. Monthly meeting of the Colorado Scientific Society, Berthoud Hall Room 241, Colorado School of Mines campus, Golden; all are welcome; social time & refreshments at 6:30, meeting at 7:00. See an abstract (and a map) on the Sci Soc website, <u>https://coloscisoc.org/</u>.

**Fri.-Sat.-Sun., Feb. 28-Mar. 1, Denver Gem & Mineral Guild, Jewelry, Gem, and Mineral Show**, Jefferson County Fair Grounds, 15200 W. 6<sup>th</sup> Ave., Golden, CO. Free parking & free admission; hours 10-6 Fri. & Sat., 10-5 Sun.

**Thurs., Mar. 12**, 7:30 p.m., bimonthly meeting, Friends of Mineralogy, Colorado Chapter, featuring Scott Werschky, Reno, NV, mining geologist, mineral dealer (Miner's Lunchbox, specializing in gold specimens and "investment quality mineral specimens"), and board member of the Rice Museum of Rocks and Minerals. Presentation topic TBA. Berthoud Hall Room 108, Colorado School of Mines campus, Golden. See <u>https://friendsofmineralogycolorado.org/</u> for more info when available.

**Fri., Mar. 13, North Jeffco Gem & Mineral Club Silent Auction,** APEX Community Center, 6842 Wadsworth Blvd., Arvada, setup at 5:30 p.m., auction begins at 6:45 p.m. All are welcome. For more info, Bill Jones, 303-503-6288, email sidewindermin@comcast.net .

**Fri.-Sat.-Sun., Mar. 13-15, Fort Collins Gem & Mineral Show**; at Thomas M. McKee Building, at The Ranch/Larimer County Fairgrounds, 5280 Arena Circle, Loveland, CO (I-25 exit 259); hours 4-8 Fri., 9-6 Sat., 10-5 Sun.; adult admission \$4. Sponsored by the Fort Collins Rockhounds Club.

Thurs., Mar. 19, 7:00 p.m., Colo. Sci. Soc. Monthly meeting, 2019 Colorado Avalanches: A case history of destruction in Hinsdale County, impacts to historic mining dams, and how snow avalanches may influence development of rock glaciers, by Jonathon Lovekin, Colorado Geological Survey. Berthoud Hall Room 241.

**Fri.-Sat.-Sun., Apr. 10-12, Colorado Mineral and Fossil Spring Show**, Crown Plaza Hotel - Convention Center, 15500 E 40th Ave., Denver, Colorado, 10-6 Fri. & Sat., 10-5 Sun., free parking & admission.

Thurs., Apr. 16, 5:30 p.m., Rise of the Mammals: Exceptional Continental Record of Biotic Recovery after the Cretaceous–Paleogene Mass Extinction (about the Corral Bluffs fossil mammal find), by Ian Miller and Tyler Lyson, Denver Museum of Nature and Science; at the CSS Annual Past Presidents' Dinner, to be held at the Mount Vernon Canyon Club

**Sat., May 16,** noon-4 p.m., **Silent Auction, sponsored by Colorado Chapter, Friends of Mineralogy.** All are welcome; setup at 11, auction begins at noon, live auction at 1 p.m. At a new location: Wheat Ridge United Methodist Church, 7530 W. 38<sup>th</sup> Ave., Wheat Ridge (38<sup>th</sup> Ave. at Wadsworth Blvd.).

**Sat., May 16**, **Symposium on Water and Energy**, to be held in Ricketson Auditorium, Denver Museum of Nature and Science. Cosponsored by the Colorado Scientific Society, Denver Museum of Nature & Science, Center for the American West, and others. Details forthcoming!

Sun, May 17, noonish, for the monthly FSS (Florissant Scientific Society) meeting, Christine Siddoway

(Colorado College) will give a talk on the **Tava Sandstone** (the geologically famous "sandstone injectite dikes of the Pikes Peak region") followed by a short field trip. Osborne Center, University of Colorado at Colorado Springs. All are welcome to attend; contact Beth Simmons, cloverknoll@comcast.net, for details or to be put on the FSS mailing list.

February 2020

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**Fri.-Sat.-Sun., June 12-14**, **Pikes Peak Gem & Mineral Show**, Norris-Penrose Event Center, 1045 Lower Gold Camp Road, Colorado Springs, CO 80905. Sponsored by the Colorado Springs Mineralogical Society. Hours: noon-7 pm Fri., 10-5 Sat, 10-4 Sun. Admissions: Adult, 12 and older \$5.; Multiple Day \$8.; Children 11 and under, free.

Thurs.-Sun., July 23-26, Fairplay Contin-Tail Gem, Mineral, and Jewelry Show, Fairplay River Park.



## The Michigan Puddingstone

#### **Steven Wade Veatch**

Michigan's puddingstones are intriguing rocks that look like a glob of pudding stuffed with raisins, nuts and bits of cranberries. These white rocks, with small red, brown, purple and black pebbles, are not a Michigan product. During the last ice age, they hitched a ride into Michigan on an ice sheet and got off in the southern part of the state when the ice melted.



Fig. 1. An unpolished puddingstone from Michigan. Some contain trace amounts of gold and diamonds. These rocks are commonly found just after farmers plow their fields in Michigan. Puddingstones were brought to Michigan by Ice Age glaciers. Jo Beckwith Specimen. Photo by S. W. Veatch

Puddingstones went through several steps in their formation (in what is now part of Ontario in Canada), before they went on their journey to Michigan. First, a network of rapidly flowing streams tumbled red and coffee -brown jasper, funeral-black chert, hematite, and quartz in their churning water. Next, the streams deposited the material as sedimentary fill in eroded troughs and as alluvial fans, when the streams reduced their velocity and scattered the colorful pebbles onto mounds of sand (Lowey, 1985; Baumann et al., 2001).

Then, the sand and pebbles hardened beneath the Earth's surface and, over time, formed sedimentary rocks known as conglomerates (Slawson, 1933). Later, intense heat and pressure metamorphosed the matrix of sand into a light-colored, coarse-grained, sugarytextured quartzite that tightly held the pebbles (Schaetzl, n.d.). These geological forces formed the puddingstones around 2.3 billion years ago.

Today, geologists recognize these conglomerates as part of the Lorrain Quartzite of the Cobalt Series (Door and Eschman, 1970). This rock formation occurs as thick beds at Saint Joseph Island in Northern Ontario, Canada. The conglomerates also are found by the Saint Mary's River north of the Bruce Mines. This area is located 65 km (40 miles) east of Sault Sainte Marie in Ontario.

Puddingstones traveled south during the last ice age with the immense Laurentide Ice Sheet as it flowed at a glacial pace down from Canada. This ice plucked the puddingstones from the underlying bedrock, carried them hundreds of kilometers, and delivered those rocks to Michigan about 24,000 years ago.

This slowly advancing ice plowed across the landscape for thousands of years until rising temperatures, brought on by a climatic shift, ended their movement in Michigan. As the glacial ice melted it deposited glacial till that contained the puddingstones.

Today, farmers in the southern part of Michigan find puddingstones after spring plowing. Since tightly cemented puddingstones can be cut and polished, they are in demand by Michigan artists and crafters, who make jewelry and ornaments out of them. Puddingstones are commonly found as garden decorations that adorn Michigan homes and farms. People also collect and display puddingstones for their striking colors and appearance.



Fig. 2. Since puddingstones are so hard, they take a nice polish as seen in this example. Steven Veatch specimen. Photo by S.W. Veatch.

In fact, as grandparents and parents take children outside to hunt for puddingstones, they pass an interest in puddingstones and geology down through generations of Michigan families. The tradition of looking for these goes back to the settlement of Michigan, and there is no sign of this interest ending anytime soon.

#### **References cited:**

Baumann, S. D., J. T. Arrospide, and A. E. Wolosyzn, 2011, Preliminary Redefinition of the Cobalt Group (Huronian Supergroup), in the Southern Geologic Province, Ontario, Canada. Midwest Institute of Geosciences and Engineering, Chicago, Illinois, USA.

Door, J. A. and Eschman, D., 1970, Geology of Michigan: Ann Arbor, The University of Michigan Press.

Lowey, G.W., 1985, Stratigraphy and Sedimentology of the Lorrain Formation, Huronian Supergroup (Aphebian), Between Sault Ste. Marie and Elliot Lake, Ontario, and Implications for Stratiform Gold Mineralization, Open File Report no. 1154. Geological Survey of Canada, Ottawa, Canada.

Schaetzl, R. J. (n.d.), Geography of Michigan and the Great Lakes Region. Retrieved, from http:// geo.msu.edu/extra/geogmich/Puddingstones.html on

January 22, 2020.

Slawson, C. B., 1933, The Jasper Conglomerate, an Index of Drift Dispersion. The Journal of Geology, Vol. 41, No. 5, p. 546–52.

The End

## A YOOPING GOOD CSMS CRYSTAL **GROUP HOLIDAY PARTY**

Mike Nelson csrockguy@yahoo.com

The Colorado Springs Mineralogical Society (www.csms1936.com) sponsors a number of interest groups that specialize in the study of areas such as fossils, crystals, lapidary and others. In fact, the Society actually started when Lazard Cahn, a Colorado Springs mineral dealer with ties to mineral venues in New York City, "taught and studied" minerals and crystals to/with a group of local citizens interested in such. From its crystal-orientated start in 1936 the Society morphed into the multi-disciplinary society seen todav.

Although I have attended several different group meetings, and even organized the fossil group for a few years, my major interest (and committed time) today is with the crystal group. Therefore, when it came time for a *holiday party* organized by Mr. Rockhounding the Rockies (https://

rockhoundingkw.blogspot.com/) and Austin, The Gem Guy, I began to organize my thoughts about which finger foods I could contribute, and locating a nice



Yooperland (the UP) is connected to the Troll Land (lower Michigan) by the Big Mac (the Mackinac Bridge).

mineral or two for the secret gift exchange. All of the excitement about the big party, along with decorations adorning lawns and windows across the city, reminded me that the holiday season is upon us and I started singing (only in my pickup when alone) one of the great classic Christmas

Continued pg 6

# PEBBLE PUPS CORNER



## **CSMS Pebble Pups & Earth Science Scholars**

The Earth Science Scholars & Pebble Pups meet at the Mt. Carmel Veterans Center every THIRD Thursday at 5:30 PM until 6:15 PM or so. We only meet during the academic year, and we include January. So, it is Sept through May.

Special announcements and field trips are noted on our blog:

http://pebblepups.blogspot.com

and through the CSMS website: http://www.csms1936.com

songs—*Grandma Got Run Over By a Reindeer* (Randy Brooks). That in turn, along with the announced "retirement" notice of USGS geologist Pete, reminded me of the Upper Peninsula of Michigan (UP) and the Da Yoopers who recorded another sweet Christmas melody, *Rusty Chevrolet:* 

> Dashing through the snow In my Rusty Chevrolet Down the road I go Sliding all the way I need new piston rings I need some new snow tires My car is held together By a piece of chicken wire



I was all prepared and ready to hit the country roads to The Gem Guy's home until 8.5 inches of snow, along with high winds, blanketed the Monument area with some substantial drifts. The next night I was able to use aggressive tires and four-wheel drive to complete a safe trip to the postponed party.

My secret gift received was a nice specimen of native copper collected from the Caledonia Mine, Ontonagon



Bright, shiny, hacky copper nugget with blobs of massive, green Epidote (I think). The nugget was prepared by immersing it in an acid bath (unknown acid). Such a bath removes tarnish but also dissolves calcite and other carbonate minerals. Near the center of the piece the large cavity displays casts of calcite crystals. Width of nugget ~6.6 cm. See the discussion on MinDat about cleaning copper at: https://www.mindat.org/mesg-26246.html#26266

County, Michigan—a real Yooper Copper Nugget. The Mine started production in ~1863 and continued until ~1958 although mining was sporadic after 1881. There have been several exploration events since closing and even today the dump piles are available, with reservations, for specimen mining. Maybe somewhere a little less than 1,500,000 pounds of copper has been refined from the Caledonia.

The UP, and in fact the entire state of Michigan, is best known (and famous to rockhounds) as the home of Lake Superior Agates (Lakers) and the copper nuggets. The original source of both is from the basalts (several different layers) located in the Midcontinent Rift System (MRS). This geological rift (think about the great East African Rift Zone) began to form in the Precambrian (Proterozoic Era) perhaps 1.1 Ga splitting the stable part of the North American "continent" or plate (referred to by geologists as the craton). The Rift is nearly 1400 miles long extending from northeast Kansas to Lake Superior with an eastern arm curving around and heading

towards Ohio and a shorter arm trending Cont

Continued pg 7



Photomicrograph of a cavity in the copper nugget showing traces, perhaps, of both copper crystals and casts of dissolved calcite crystals, along with green Epidote (see below). Width FOV ~1.2 cm.

west along the Minnesota-Ontario border. Huge amounts of lava erupted along faults while adjacent rivers from the uplands dumped thousands of feet of sediments (later sedimentary sandstones and conglomerates) into the lowlands of the Rift. For some reason the Rift "stopped splitting" (a failed rift in geological jargon) and the continent healed. To fix this image in your mind, just imagine the top crust of a pie and how triple cracks develop during baking (but magnify the size by zillions!). Perhaps the compression stopping the rifting was the result of orogenic activity (mountain building) on what we now know as the east coast of North America.



Photomicrograph showing massive Epidote? with disseminated copper. Width FOV ~1.2 cm.



The MRS is centered in Lake Superior with two well-defined arms and one sort of trending west. Map Public Domain (I think).

Most of the rocks in the rift are buried below the surface of the earth and are only known from geophysical studies and drill holes. For example, the Midcontinent Geophysical Anomaly (MGA) in my home state of Kansas delineates the rift since the concentration of magnetite in the Rift rocks creates a magnetic "high" that is picked up by geophysical instrumentation. However, rocks of the Rift become exposed around Lake Superior and the amygdaloidal agates erode from the basalts. Since the Rift rocks include substantial amounts of iron, the agates have some sort of a red or orange color---oxidized iron. Most likely the agates formed postdeposition of the basalt and are the result of percolating silica-rich groundwater filling the many vugs or vesicles in the basalt.

The formation of UP copper found in rocks associated with the Midcontinent Rift System has been described by scientists at Michigan State University (geo.msu.edu/geogmich/copper.html) as follows: most of the native copper occurs at the top of the MRS basalt in a unit known as the Portage Lake Volcanics/Lavas. However, this series actually contains over 200 individual lava flows (snow basalts and some rhyolite), and 20 discreet conglomerate beds, that collectively have produced over 11 billion pounds of copper. Over one billion pounds of copper have been extracted from copper sulfides (mostly chalcocite, CuS) in the overlying Nonesuck Shale. The original source of the copper was from secondary deepseated hydrothermal solutions percolating toward the surface with native copper crystallizing in the open vugs and pore spaces of older Rift rocks. Most of these native copper deposits are found in the Keweenaw Peninsula "sticking out of the UP into Lake Superior" and home of Michigan Technological University with the fabulous A.E. Seaman Mineral Museum.

Continued pg 8



By Adelaide Bahr, Scribe

The meeting was canceled.





Surface-pitted cube of light green tinted transparent fluorite. Width FOV ~1.2 cm.

1) Emperor Hadrian wanted to keep the empire intact which had been imposed on him by divine instruction; 2) there was little economic advantage in building and defending a wall; 3) the wall may have been a degree of control over immigration and smuggling; 4) the wall separated the Roman citizens in the

Continued pg 9



The Weardale specimen with many fluorite cubes of all sizes. Colors range from light green (upper left corner) to dark green (three cubes in lower left corner)) to colorless. Light purple tinted cubes on reverse.

Santa was responsible, so they say, for dropping off several "door prizes" with picking rights determined by lottery. My lucky number was drawn last but, in my opinion, I received the premier specimen—some really nice cubes of fluorite collected from the Heights Mine (per label), Weardale Region, County Durham, England, UK. MinDat describes the area as "the valley of the River Wear. The upper reaches between the town of Wolsingham on the east and the county border with Cumbria to the west is host to significant mineral deposits of the Mississippi Valley Type (MVT). Many mines in the area were developed for lead and iron between the 13th and 19th centuries, and for fluorspar during the 20th century. Significant amounts of stone quarrying have also occurred. Amongst collectors, the region is particularly known for the high-quality fluorite specimens [especially green] that have come from many of the mines... Associated minerals include galena, calcite, and aragonite. Larger, opaque green fluorite crystals to 8 centimeters have also been encountered."

At one time in my life I took a train ride through central and northern England since I wanted to spend a few days in the Lake Region, and to examine Hadrian's Wall. The latter had fascinated me since reading about the structure in a grade school history course as it marked the northern limit of the Roman Empire in Britannia (the UK) in the early 2<sup>nd</sup> Century AD. In today's world of wall building I find it fascinating that Everitt (2009) pointed out that:

the south from the "barbarians" in the north; 5) but more likely, the wall was built to reflect the power of Rome and was used as a political point by Hadrian. As Carl Sagan once famously put it "You have to know the past to understand the present."



A section of Hadrian's Wall in north central England. Public Domain photo.

It was a great trip except for one thing—the first morning in a hotel I was served Black Sausage with eggs. I was hungry so chomped down the small portions but really was not fond of the sausage. It was only after eating that I found out the main ingredient was pork blood---and I have never put a piece of Black Sausage in my mouth again .

Dedicated to USGS Pete and Jane who this summer will be rocking on the front porch of a Yooperland lake cabin.

REFER-ENCES CITED Everitt, Anthony, 2009, Hadrian and the Triumph of Rome: Random House, Inc.

The End



As for Yooperland, the locals are pretty taciturn, but may like blood sausage!

## The Crystal Vug

By Laura Canini, Scribe

Meet the 4th Thursday, except June, July, August, November, and

On Thursday, January 23, 2020, the Crystal Satellite Group met for a presentation by group leader Kevin Witte on topaz. It was a nice turnout of about 12 long term members, 3 newer members, and we welcomed eight new members to the group!

Topaz has a Mohs hardness of eight and a specific gravity of 3.4-3.6. Its habit is orthorhombic, the luster is vitreous and it is transparent or translucent. The tenacity is brittle, it has perfect cleavage and its streak is white. All of these properties can be used to identify specimen from quartz or other minerals.

Topaz is found in cavities and fractures of igneous rocks like rhyolite, granite, or pegmatite. There are 10 colors of Topaz and Topaz is often heat treated for jewelry to bring out deeper colors.

Kevin showed a Mindat map of topaz localities around the U.S., but he focused his discussion on Colorado collecting sites. Many topaz localities are under mineral claim, so collectors are advised to use the BLM site, LR2000 to locate claims, or to go with an experienced collector. Colorado topaz areas discussed are Cameron's Cone, where the well known Agnus Dei claim is that produced beautiful and large sherry topaz. The claim is also surrounded by many other claims, but there are likely still undiscovered spots in the area. Topaz has been collected for many years at Glen Cove in Pikes Peak, although the best specimens were found in the 1930-1940s by Ed Over, a premier topaz prospector in Colorado in his time. Much of it was collected by rappelling over a steep cliff, and some serious accidents took place. Devilshead south of Denver is another locale, although again one has to be aware of claims and hike farther off the roads to unclaimed land. The Tarryall Mountains also have topaz; there is debate whether or not it is legal to dig in the Wilderness, but many agree hand digging and filling holes is permissible. Topaz has been found in the Lake George Mining District, on Joe Dorris's Smoky Hawk claim, but it is not common. Dorris also owns the well known Topaz Mountain Gem Mine on Matukat Road, which was discovered many years ago by road graders. The club will be invited to dig at this claim in the summer, and the fee is usually \$50, which includes a bag of gravel from the mine to sort through at home. Any topaz specimens that are found need to be shown to Mr. Dorris for purchase at wholesale prices.

Ruby Mountain near Nathrop is another locale, but now the area is part of the Browns Canyon National Monument, so collectors there need to follow rules on the posted sign.

Other club news: Lisa Kinder is show chair and is volunteering as secretary for the time being, but the club needs a secretary and an editor. Next month Kevin will speak about the Tucson show and Rhodochrosite.

February 2020

#### **General Meeting Minutes for the** SECRETARY'S SPOT 2019 CSMS OFFICE **Colorado Springs Mineralogical** by Sharon Holte, acting secretary John Massie, , President Society -Vacant, Vice-President **CSMS** General Assembly Meeting Lisa Cooper, Secretary Thursday: December 19, 2019 Time: 7:00 p.m. Ann Proctor, Treasurer At: Mt. Carmel Veterans Service Center Address:530 Communications Circle Adelaide Bahr, Membership Secretary Minutes: Call the meeting to order by our President, Sharon Holte, at 7:00 Sharon Holte, Acting Editor p.m. Chris Burris, Member-at-Large Pledge of Allegiance, by John Massie One Item of Business: Election of officers: John Massie, President; Renee Swanson, Member-at-Large Richard Cook, Vice-President; Ann Proctor, Treasurer; Editor, vacant; Secretary, vacant; Membership Secretary, Adelaide Bahr; Sharon Holte, Past President Members-at-Large, Chris Burris and Renee Swanson. Sharon 2019 CSMS CHAIRPERSONS Holte will remain on the Board as Past President. There were 27 current members present. A vote was taken and the slate of offi-John Massie, Program Coordinator cers was approved. The Christmas Party was greatly enjoyed by all!!!: John Massie, Show Volunteer Coordinator The party was adjourned at 8:45 p.m. Respectfully submitted by Sharon Holte, acting secretary Mike Webb, Field Trip Coordinator **CSMS** General Assembly Steven Veatch, Science Fair Chair Meetina January 16, 2020 Thursday: Time: 7:00 p.m. Frank & Ellie Rosenberg, Librarians At: Golden Corral; 1970 Waynoka Rd, Colorado Springs, CO 80915 Minutes: Mark Schultz, Social Committee Chair Call the meeting to order by our President, Sharon Holte, at 7:05 p.m. Everyone had a great time eating and visiting Ann Proctor, Store Keeper Kaye Thompson installed the officers for 2020: John Massie, President; (Richard Cook, Vice-President did not attend and will not be able to fill Lisa Kinder, Show Chairman the position due to an illness); Ann Proctor, Treasurer; Editor, vacant; Lisa Kinder, Webmaster Secretary, vacant; Membership Secretary, Adelaide Bahr; Members-at-Large, Chris Burris and Renee Swanson; and Sharon Holte, past presi-Lisa Kinder, Facebook Keeper dent. Steven Veatch gave the presentation, "The Early Fossil Discoveries of Florissant, Co". His presentation was very informative and inter-Mike Nelson, Federation Representative esting, especially because it is an area we are familiar with! The party was adjourned at 8:35 p.m. **TBD**, Federation Representative

## Hey!!!

We still need to nominate and elect a 2020 CSMS Adult Rockhound of the Year!

Please refer to the November 2019 issue of the Pick & Pack, page 3

If you do not have a copy, you can access www.CSMS1936.com and go to the Newsletters.

Print off a form or two and nominate your best rockhound!!

# Thanks!!!

## **2020 SATELLITE GROUP**

## **CHAIRPERSONS**

Crystal, Kevin Witte / Bob Germano

Faceting, John Massie / Bertha Medina

Fossil, Jerry Suchan / Joyce Price

Jewelry, vacant

Lapidary, Sharon Holte

Micromount, vacant

Pebble Pups, Steven Veatch/ / Betty Marchant

Photography, vacant

## 2020 Liaisons

Florissant Fossil Beds

National Monument, Steven Veatch

Western Museum of

Mining & Industry, Steven Veatch





## President' Corner

By: John Massie

#### February 2020

I want to thank everyone for electing me president for the up coming year.

My main goal this year is to increase membership and attendance at meetings, I am looking for ways to get our name better known in the community. So far, we plan on working with Friends of the Fossil Beds and WMMI.

I would also like to devote a few minutes of each meeting for members to display and talk about their hobbies.

I am looking forward to a great year and working with all the members on activities our society participates in.

## The Facetor's Cut

### By: John Massie, Scribe

Feb 2020

The faceting group meets the fourth Thursday of each month, we meet at Bertha Medina's home. Call John Massie for further directions.

We discuss various faceting cuts, gem stones and mountings.

The club owns a collection of replicas of worldfamous diamonds which we will be discussing in March.



Topaz, Pikes Peak, El Paso Co., Colorado, USA

## Ancient Weevil Pupal

Cases: Trace Fossils From

Australia Pleistocene

## By Steven Wade Veatch



Curious pupal cases made by prehistoric weevils, together with worm burrows, are found as trace fossils in rock exposures of the Upper Bridgewater Formation along the western coastline of the Eyre Peninsula in South Australia (Flint, 1992; Flint and Rankin, 1991; Rankin and Flint, 1992). According to Parker and Flint (2005), the Upper Bridgewater Formation is a middle to late Pleistocene aeolian calcarenite (a windblown, consolidated gritty calcareous sandstone). These trace fossils are found inland from the coast for a distance of about 40 km. Microscopic analysis of these ancient pupal cases shows they are made of gritty sand and gravel that were cemented by calcite over thousands of years.



Fig. 1. Fossil pupal cases from the Bridgewater Formation resemble small elongated eggs. These cases have a hole where the fossil organism exited. The trace fossils are characterized by their strong cementation and a hollow interior. Scale in mm. Specimen from the S. W. Veatch collection. Photo by S. W. Veatch.

These cases are thought to have contained the pupae *Leptopius duponti*, a medium-size, soil-inhabiting weevil or snout beetle of the family Curculionidae. The Curculionidae are one of the largest families of organisms, with at least 44,000 described species (Grimaldi and Engel, 2005). Adults of most species of this family have a characteristic elongate snout or *nostrum*. At the end of this well-developed snout is a small pair of mandibles for biting and chewing food.

Taxonomic Classification:			
Kingdom	Animalia		
Phylum	Arthropoda		
Class	Insecta		
Order	Coleoptera		
Suborder	Polyphaga		
Superfamily	Curculionoidea		
Family	Curculionidae		
Subfamily	Leptopiinae		
Genus	Leptopius		
Species	duponti		

The adult female *Leptopius duponti* not only relishes the foliage of acacia trees as food, but also carefully lays her eggs on the leaves. When the larva hatch, they move underground to feed on roots. When they are ready to pupate, they form a chamber or pupal case out of the soil. After their metamorphosis, they cut a hole near one end of their pupal case to leave and then burrow to the surface, where they quickly climb the acacia trees to feed.

The pupal cases are usually too delicate to survive for any length of time, but, occasionally, some of the empty cases remain underground where they become petrified by calcite. (Tilley et al., 1997). Some of these pupal cases in the Upper Bridgewater Formation are estimated to be 40,000 to 100,000 years old.



Continued pg 13

Fig. 2. *Leptopius duponti* is common in Australia, where they are called "wattle pigs." The body length of *Leptopius duponti* averages 20 mm. These slow-moving weevils are plant eaters. Photo by David Nelson. Used with permission.

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## **Constitution Changes**

Second publishing:

The Amendment to Article IX p5, pg 17 - Annual Show. As published in the November 2019 Pick & Pack Page 5. "Vendors will be charged booth fees based on the size of the booths and the cost of the Venue. The fees will be determined by the Show Chairman." This change will allow the Show Chairman to determine the fees without each time having to change the constitution.

#### Second publishing:

The Amendment to Article X, pg 17 – Annual Picnic. As published in the November 2019 Pick & Pack, Page 5. *"The annual picnic will be held on a Saturday in August"*. The reason for the change is that people tend to be away in July.

#### First Publishing:

The Amendment to Article V, p1, pg 12 Dues change "New Members joining after May 30<sup>th</sup> shall pay onehalf (1/2) the applicable dues" and delete paragraph 5. This will allow those joining at the Show to receive the half a year discounted.



Topaz Gem Mine, Teller Co., Colorado, USA



Topaz Gem Mine, Teller Co., Colorado, USA

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	Western Museum of Mining		
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Date:	February 22, 2020		
Time:	8:30am-5:30pm		
Instructor:	Steven Veatch		
Call:	719-488-0880 to reserve your spot today		

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FEE. • Optional graduate credit: This class is perfect for teachers K-12 (recertification credits: 0.5 semester credit hour available through the Colorado School of Mines for additional fee (\$40.00) payable at start of the class). I

Instructor bio: Steven Veatch Steven Veatch grew up in the Pikes Peak region and earned degrees at Pikes Peak Community College, Colorado State University at Pueblo, Webster University, and Emporia State University. He is a writer of essays, literary criticism, book reviews, science articles, and professional papers. He has published over 150 articles on nature and science.

He has contributed chapters to these three books: Field Trips in the Southern Rocky Mountains, USA, Field Guide 5; The Paleontology of the Upper Eocene Florissant Formation, Colorado; and The World's Greatest Gold Camp: An Introduction to the History of the Cripple Creek and Victor Mining District.



#### Our Staff... Sharon Holte—Editor

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 welcomed. The DEADLINE for items to be included in the next Pick & Pack is the **20th of the preceding 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.

Articles are preferred in MS Word, preferably NOT pdf, but the editor will correct font.

E-Mail to: <u>csmseditor@hotmail.com</u>

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.

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If you celebrated a CSMS anniversary in 2017 or 2018, you are eligible for your one year pin award! Please see Storekeeper,

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#### CSMS is an incorporated nonprofit organization with these 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 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 p.m., at Mt. Carmel Veterans Service Center; 530 Communication Circle, Colorado Springs, CO 80905. <u>Visitors are always welcome</u>.

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.

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.

Individuals—\$30, Family—\$40, Juniors—\$15, Corporate—\$100, \*\*\*\*\*Application is on the web site.

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: <u>www.csms1936.com</u>

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February 2020