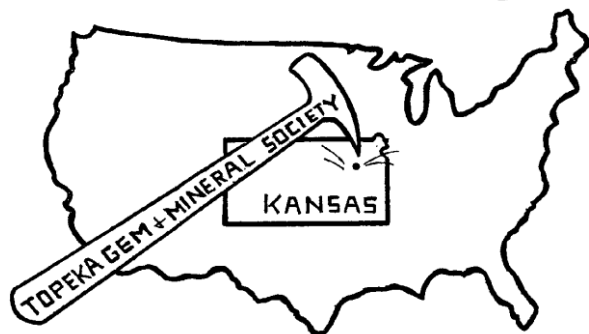


The Topeka Gem and Mineral Society, Inc.
 1934 SW 30th St. Topeka, KS 66611
 Rock2Plate@aol.com

THE GLACIAL DRIFTER



www.TopekaGMS or
 Facebook: Topeka Gem and Mineral Society Field Trips

The Topeka Gem & Mineral Society, Inc.
 Organized December 3, 1948

Member of Rocky Mountain Federation of
 Mineralogical Societies American Federation of
 Mineralogical Societies



The Glacial Drifter, Vol. 65, No. 2
 February 2022



The Purpose of the Topeka Gem & Mineral Society shall be exclusively educational and scientific: (1) to promote interest in geology and the lapidary arts; (2) to encourage the collection and display of rocks, gems, and minerals; (3) to encourage field trips and excursions of a geological, or lapidary nature; and (4) to encourage greater public interest and education in gems and minerals, cooperating with the established institutions in such matters.

Meetings: 4th Friday of each month, September to May, 7:30 pm, University United Methodist Church, 1621 SW College, Topeka, KS 66604. No meeting in December unless notified of a change. Picnic meetings are held, June, July and August.

Dues: Individual, \$15.00; Couple, \$20.00; Junior (under 18 years of age), \$5.00. Dues are collected in December for the following year. Send dues to: **Millie Mowry, Treasurer, 1934 SW 30th St, Topeka, KS 66611.**

www.TopekaGMS.org

2022 OFFICERS AND CHAIRS

President	Brad Davenport	379-8700	Cab of the Month	Debra Frantz/Fred Zeferjohn	862-8876
1 st Vice Pres.	Will Gilliland	286-0905	Field Trip Coord.	Will Gilliland	286-0905
2 nd Vice Pres.	Cinda Kunkler	286-1790	Publicity	TGMS Board	
Secretary	Stacy Haug	1-857-3350	Welcome/Registration	Harold Merrifield	633-9745
Treasurer	Millie Mowry	267-2849	Property	D. Dillon	272-7804
Directors	Chuck Curtis	286-1790	AFMS Scholarship	Cinda Kunkler	286-1790
	Jim Baer	785-256-2432	Editor/Exchange Editor	Millie Mowry	267-2849
	Dave Dillon	272-7804	Show Chairman	Dave Dillon	272-7804
Historian	Open		Show Dealer Chairman	Dave Dillon	272-7804
Federation Rep	Chuck Curtis	286-1790	Show Secretary	Cinda Kunkler	286-1790
Corporation Agent	Millie Mowry	267-2849	Jr. Rockhound Leader	Jason Schulz	640-6617
Librarian	Millie Mowry	267-2849	Show Case Coordinator	Cinda Kunkler	286-1790
Web Master	Jason Schulz	640-6617			

Area Code for all numbers is (785).

EXCHANGE BULLETINS WELCOME

For exchange newsletters contact the club via mailing address listed above or email at rock2plate@aol.com.
Permission is granted to reprint articles only if proper credit is given to the author, Glacial Drifter and the date.

Fodder from the president. Feb/22

Greeting one and all.

Mid-February or Spring? I don't know, I am so confused. True to Kansas weather. Seventy degrees on Tuesday and snow on Thursday. What is one to do?

I guess we do what we can and don't do what we can't. What we can do is kick some life into this club. I am happy to announce that club activities will resume starting the first of March. Our first general meeting at the church will be on March 25th. We will be having a silent auction. On March 3rd we will hold a class for our Junior Rockhounds. Fossils and Dinosaurs will be the topic. More on this to follow. On Tuesday March 1st we will resume classes out at my place. Prior to classes starting there is some work that needs to be done in the shops. So, on Saturday February 26th at 12:00, we are going to have a bit of a work day. If enough help shows up, this will not take very long. It feels good to think I am ready to pull my head out from under the rocks. I hope you all feel the same.


Another reminder is that the KC show occurs March 12th & 13th.

As I hope you all know, there is a T-Rex lingering in North Topeka. Her name is Sue and I hope everyone goes and visits her. She and a sidekick will be here through April. On March 16th we will be treating our Juniors to the opportunity to see her, a sack pick-nick lunch and then a trip to the Zoo. At the Zoo there will be Dino animatronics and other displays scattered throughout the zoo. We can certainly use some help that day. If you can help, please let me or Cinda know.

About half of our membership have yet to get their dues paid. I know many of you pay them at the general meetings so please do so. But bring some extra bills to make your purchases at the silent auction.

Petrification ROCKS!

Brad



The Silent Auction scheduled for January will be held at the March Meeting.
This gives you another few days to keep cleaning out those shelves and boxes.
We need the Best Choice labels turned in also so we can get our rebate.
Cinda Kunkler

We need your **BEST CHOICE UPC Labels** --
Bring them to the monthly meeting, and give
them to Cinda Kunkler.



DUES ARE DUE

TGMS Event Calendar

FEB 2022			MAR 2022		
1	T		1	T	Brad's Shop Open Wear Mask 6-9:30pm
2	W		2	W	
3	T		3	T	Jr Rockhounds, UUMC 6 p.m. sign in
4	F		4	F	
5	S		5	S	
6	S		6	S	
7	M		7	M	
8	T		8	T	Brad's Shop Open Wear Mask 6-9:30pm
9	W		9	W	
10	T		10	T	Board & Show Meeting 7 pm Millie's
11	F		11	F	KC SHOW
12	S		12	S	KC SHOW
13	S		13	S	KC SHOW
14	M		14	M	
15	T		15	T	Brad's Shop Open Wear Mask 6-9:30pm
16	W		16	W	
17	T		17	T	
18	F		18	F	
19	S		19	S	
20	S		20	S	
21	M		21	M	
22	T		22	T	Brad's Shop Open Wear Mask 6-9:30pm
23	W		23	W	
24	T		24	T	
25	F		25	F	General Mtg. UUMC 7:30 p.m.
26	S	Clean up Day at Brad's Shop 12 noon	26	S	
27	S		27	S	
28	M		28	M	
			29	T	Brad's Shop Open Wear Mask 6-9:30pm
			30	W	
			31	T	

No General Meeting in February.....
 Classes resume on March 1, 2022.....

If you are interested in Wire Wrap Classes, contact Millie, 267-2849 or rock2plate@aol.com

Check out the calendar on our web site www.TopekaGMS.org

DUES ARE DUE

JR ROCKHOUND Classes &

Reminders

Here are reminders of the next few months of classes: **University United Methodist Church, 1621 SW College Ave., Topeka, KS.** Sign in starting at 6:00 pm and classes starting at 6:30pm. 1st Thursday of each month.

<https://www.facebook.com/TopekaGMSJuniorRockhounds>

To register for the Junior Rockhounds or any of the classes, email:

Jason Schulz at: Fleetcommander@att.net



---Everyone must wear masks!

Next Class: March 3..... Fossils and Dinosaurs.....by Pat & Will Gilliland

Reminder: If you want to earn the patches from the classes that you have attended you need to turn in your homework assignments.



Fun Link! Cuttlefish can think?!!

<https://www.sciencealert.com/cuttlefish-can-pass-a-cognitive-test-designed-for-children> (Source: CIMS-Nuggets)



Announcing the launch of the new AFMS Juniors Website!

Volunteers from across the federations came together in a team effort to make this happen. The website features a contact form for new clubs wanting to sign up for Future Rockhounds of America (FRA), and a contact form for clubs and societies wanting to participate in the Rock Pal Rock Exchange. The streamlined process for requesting badges, patches, and pin can be found on the FRA Badge Program page. The annual 2022 Poster Contest is highlighted on the Awards, Contests, and Scholarships page, along with a brand-new program for Junior Volunteers. Leaders can also find tips and hints for starting a youth program. The Partnerships page gives leaders suggestions for reaching out and joining forces with other organizations. As we say on the home page, "You will frequently see the warning, Website Under Construction, but it takes on new meaning for this website. This site will always be under construction as it grows, shifts, morphs, and adapts to the needs of our juniors and youth leaders. It is a place to come for current news and events from across the AFMS. So when we say, Check Back Frequently, it is a good idea to do just that!" We hope the website will become a place for leaders across the country to share ideas. If there is something you would like to see us add, or if you have an activity others may find helpful, please let us know. The website can be reached by following the link on the AFMS website, <http://www.amfed.org>, or you can access it directly by going to <http://www.juniors.amfed.org>

Specular Hematite Has Sparkling Allure (They Even Sell the Dust)

Susan Satchwill

Three Rivers Gem & Mineral Society (IN)

From the September 2021 Strata Data

I swept into Three Lakes, Michigan, late in the day – so late the office of the Three Lakes Motel called to verify my safety. There were a couple of rough hours of running my wipers in the dark, but the motel office had rock posters on the shelves, buckets of rocks on the floor, and a rock scoop propped up against a wall. I'd found a proper home away from home!

The following morning, I met Field Trip Coordinator Michele Yamanaka and Education Chairman Linda Spaulding in Champion. It was a short jog down the road to our destination: the old Beacon Mine dump piles. After turning off the pavement onto a two-lane, deeply rutted dirt road, we wound around until we came to the first pile. I stepped out of the car onto a road coated solid silver by glittery hematite sand. This variety of hematite is referred to as specular hematite or micaceous hematite. I worried that the pile had been picked over, but it only seemed so because it was overcast. In the moments where the sun shone, I scrambled around adding rock after shiny rock to my bucket. The dump pile extended over a hill, which made it little difficult to get the collected rocks back to our vehicles, but we managed. I collected so many small to mid-sized pieces of hematite that the bucket split.



Picture from Wikipedia

We decided to explore another pile on our way out. This one was composed primarily of smaller pieces. I now regret not dumping the larger rocks into the car and just scooping up a bucketful, they were so plentiful. I did, however, fill my entire fanny pack in a matter of minutes.

After cleaning off the silver dust, we headed to the Iron Mountain iron mine in Vulcan, Michigan. We parked in the lot with "Big John" (a 40-foot tall, 12-foot wide statue of a miner wearing a lighted helmet) and grabbed a drink from "Ol' Faceful" (an "artesian water" fountain that pipes water up from the mine) as we made our way in to buy tickets for the mine tour. After purchasing our tickets, we browsed the "largest rock shop in Upper Michigan" within the office and were amused to find vials of the very silver hematite dust we'd just washed off bottled for sale.

The tour guide discussed old mining equipment before we boarded a miniature train (added in 1965) to go 2,600 feet into the hill and 400 feet below the surface. The group walked around the tunnels, learning of the horrible conditions under which miners worked to retrieve the iron – operating equipment nicknamed "The Widomaker," working by the light of a candle on the helmet, and then later, inches under an electrical line that was lethal to accidentally hit. There were two "stopes" or areas hollowed out by miners on the tour; one smaller, one larger. Millions of pounds of ore were removed to create these stopes. The larger one is deep enough that if the Empire State building was at its bottom, the group would have been looking down at the top of it. A trip across this stope to change two light bulbs involves two 50-foot ladders, not slipping in the ascent . . . or off a cliff at the top.

Nearby was Kelley's Rock Shop (kelleyskaleidoscope.com), so we made it our next stop. The timing was incredibly lucky, as the shop was moving locations just three days later. The owner, Kelley Laughlin, talked to us about local rockhounding sites and specimens within the store. On the way back to the hotel, a double rainbow arched over the sky. That night there was a very loud thunderstorm and I wondered what my drive home might be like. The next morning was clear, however, and as I headed home, a small piece of a rainbow hung in the sky above me.

February 2022, Issue No. 609 MWF News, via CIMS Nuggets

Floating Copper

I often get a startled expression from people when I mention drift copper or float copper. They think: "Copper is dense - how can it float or drift? What is it floating or drifting on?" Drift refers to glacial drift, which is any sediment deposited as a direct or indirect result of glaciation. Copper nuggets carried by glaciers and melt water rivers is drift copper. Float is a geological term used to denote any material that has been carried by erosion away from its spot of formation. A slab of rock slides down a hill. It is now float. A glacier carries a rock a hundred miles and drops it as it melts. That rock is now both drift and float, whose source is "up glacier" somewhere. Thus, in our area, "drift copper" and "float copper" refer to the same thing.

Floating minerals leave trails a good prospector can patiently trace back to their source. For example, gold panners will pan their way upstream to the "Mother Lode". Examination of float diamonds and other kimberlite minerals has spurred exploration recently in Michigan and Canada. The Native Americans used this technique to first find the source of the Midwest copper deposits.

It's no mystery today where most Midwest drift copper originates. Native copper is abundant in the Upper Peninsula of Michigan in basaltic lava and interlayered sediments formed approximately a billion years ago. Much smaller deposits are known where these same rocks extend into Wisconsin and Minnesota. Freed from the rock by weathering, this copper can survive long transport by glaciers and rivers because of its tenacity and relatively low chemical reactivity. Float copper is found all states that have received glacial drift from the Lake Superior region. It is easily recognized by its bright green to black alteration crust (consisting of malachite, cuprite and other minerals), high density, malleability and brilliant copper color on a fresh surface.

In 1895, a Wisconsin geologist, Roland Salisbury, made a detailed study of float copper in Wisconsin. He states "specimens of 40 to 50 lbs, weight are not uncommon". I've found that nuggets that size are that not common either. Here are a few of the more notable drift copper finds from Wisconsin, as reported by Salisbury and others.

ASHLAND COUNTY: Salisbury (1885) reports the find of a 100 lb copper boulder from Outer Island.

BAYFIELD COUNTY: The largest nugget of float copper reported from the Wisconsin is a boulder weighing 1,700 lbs. found in the bed of the Sioux River about 6 miles south of Lake Superior (Salisbury, 1885).

DANE COUNTY: A 30 lb. nugget of drift copper was found in a 20 foot deep well in Madison (Salisbury, 1885).

DODGE COUNTY: A nugget of float copper weighing 487 lbs. was found near Hustiford (Irving, 1882).

PIERCE COUNTY: An 81 lb. nugget of native copper was found in a farm field near Spring Valley. (Ted Van Asse, 1997, personal communication).

ROCK COUNTY: A 114 lb. nugget of drift copper was found at Newark (Salisbury, 1885).

SHAWANO COUNTY: A 970 lb. mass of drift copper was found in a gravel pit 2 miles south of Pella (Wisconsin Geological Survey files).

- Dr. Bill Cordua, University of Wisconsin-River Falls

References:

Irving, R.D. 1882, "Minerals of Wisconsin" Chapter II in Chamberlain, T.C. Geology of Wisconsin Survey of 1873-1879, Vol. I, p. 309-339. Salisbury, Rollin D., 1885, "Notes on the dispersion of drift copper", Wis. Acad. Sci. Arts and Letters, Vol. 6, p. 42-50

Via; WGMS The Rockhouser Dec 2019

Fecund Feces

You wouldn't think feces would fossilize. In fact, you'd admit you don't think much about feces at all. Same way around here: We Why Filers are pretty much a flush-and-forget crew.

But Karen Chin Chin thinks so much about fossil feces that she can even pronounce the phrase. In fact, the Stanford University post-doc waxes wistful about waste. Fossilized excrement, she says, "can tell us a lot about population, health, distribution and diet." Like anyone who studies repulsive stuff, Chin has a ready rationale. "There's a certain intrigue about going out to dig up ancient animals, but some people don't think what I study is all that romantic. But fossil feces can be just as interesting as the study of animals." Wildlife biologists, she notes, make no apology for studying scats -- the feces of live animals. Similarly, coprolites, as archeologists term fossilized feces, convey information about the lifestyles of the dead and buried.



Scat that had nine lives

How does something as soft and ephemeral as a turd even become a hard fossil? Before getting fossilized, feces can be eaten, digested by microbes, or washed or blown away. In fact, Chin lists nine separate perils that can prevent a scat from becoming a fossil.

Most feces do disappear before fossilization, which is probably a good thing, when you think about it. But if even a small percentage of feces gets fossilized, that's enough to leave a substantial record. After all, Chin says, "an animal only dies once." But it's gotta go every day of its life...

When sliced into thin sections and examined under a microscope, coprolites may contain seeds, leaves, wood, mollusks, bones or teeth. The list, obviously, includes lots of the indigestible crud that carnivores devour.

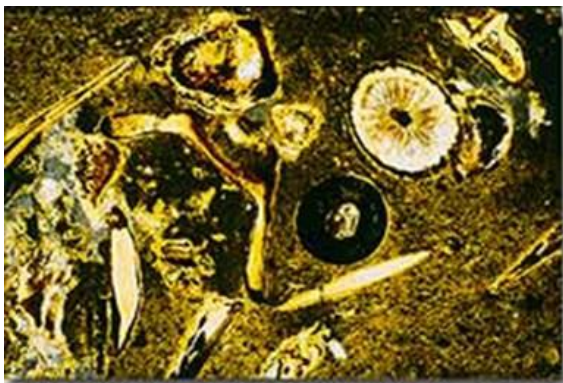
Carnivore dung is also chemically conducive to fossilization, Chin adds. Bones contain calcium, which can combine to form calcium phosphate, the major chemical that, through the process of [permineralization](#), turns soft feces into hard fossils.

The presence of both calcium phosphate and partly digested food remains are diagnostic for coprolites, which generally have that sausage shape characteristic of extrusion. That's the technical term for "squoze out."

Chin says the absence of calcium phosphate and indigestible crud reveal that many "coprolites" sold at rock and gem shows are bogus.

Caveat excrement emptor.

As one of the world's few experts on coprolites, Chin was called in to examine a titanic turd (more than 2.4 liters in volume) deposited in Saskatchewan near the end of the dinosaur age. The scat contained the bones of a young, herbivorous dino -- an itsy-bitsy critter no bigger than a cow. Although carnivorous dinos didn't masticate their food as mammals do (their teeth did not mesh well enough for that), the immense crushing pressure of a Tyrannosaurus rex jaw could have busted the bones, explaining the bone chunks.



A thin slice of coprolite shows fish teeth and fish vertebrae. Guess what this animal ate?
Courtesy Karen Chin.

Who dung it?

Identifying what Chin calls the "poopetrator" is probably the most difficult part of studying coprolites. While Chin observes that you can never know for sure, the giant T. rex poop shows that guesses are based on the fossil context, and on the size and contents of the coprolite itself.

Having read this far, do you now promise to focus more fervently on fossilized feces? If so, you'll know the right answer when Chin (a putrid punster whose quips have been purposely perpetuated previously) asks: "**Does fecal matter?**"

-- David Tenenbaum , Via <https://whyfiles.org/> Source: WGMS The Rockhounder Nov 2019

Thomsonite

Thomsonite was created from lava flows of the Keweenaw Period, over 600 million years ago. Gases within the lava seams between the lava flows turned into hollow pockets when the lava hardened. Over hundreds of thousands of years, these hollow openings filled and solidified, forming Thomsonite.

The unique combination of volcanic activity and certain chemicals and minerals is responsible for why the gemstone formed in this location along the North Shore (Michigan).

Thomsonite is found in the Kilpatrick Hills of Scotland; in the north of Ireland; Saxony, Germany; the Faroe Islands; Kern County, California; Cape Lookout, Oregon; and in the Lake Superior region. It can also be found on beaches between Tofte and Grand Marais, on the Coo-Lake County line, on Island Royal, Michigan and near Saxon Falls and the Montreal River Gorge on the Keweenaw Peninsula in Michigan.



The color and texture of Minnesota's Thomsonite makes it unique as gem-quality stones are found only in a limited area of Lake Superior's shoreline about 5.5 miles southwest of Grand Marais.

Being a rare mineral, belonging to the zeolite group of minerals, which has over 35 different recognized members. Thomsonite is one of the rarer zeolites. It forms tight acicular radiating clusters and spherules as well as some blockier crystals and is found in the vesicles or bubbles of volcanic rock, as are most other zeolites.

Dr. Thomas Thomson, first described the mineral in 1840. Thomson discovered it in the Kilpatrick Hills of Scotland, and Thomsonite has been named after him.

The Minnesota Geological Survey was established in 1873 and headed by Newton Winchell, who taught in the winter and conducted surveys in the summer. Two of his students, young professors from the University of Minnesota, S.F. Peckman and C.W. Hall, spent their vacation in 1879 along the north shore of Lake Superior studying rocks. A report they published in 1888 is the first printed reference to Thomsonite.

Pure Thomsonite is snow-white and sometimes translucent. Other compounds such as ferric and or ferrous iron or copper are responsible for the various colorations within the gemstone. Commonly found colors are pink, tan, white, red and brown. Thomsonite has green, gray, black or green eyes. Green eyes are the most highly prized and least found.

Thomsonite specimens are usually small. A little finger nail sized stone with a good radiating pattern can be considered a nice specimen. Look for white, chalky, small round or almond shaped nodules in Thomsonite.

Thomsonite is also called: Eyestone [eye agate] or Lintonite which is an agate like variety of Thomsonite with alternating bands of pinkish and green, that appear eye like. This name is applied in particular to pieces with green zones in them and from the Lake Superior region of Michigan and Minnesota.

The Badger Diggin's 5/19, via WGMS The Rockhouser Aug 2019