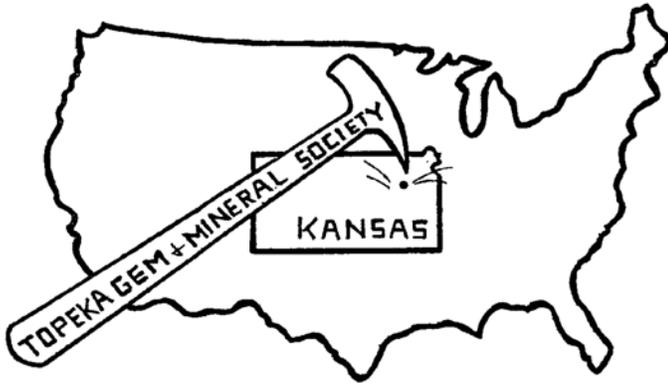


The Topeka Gem & Mineral Society, Inc.  
 1934 SW 30<sup>th</sup> St. Topeka, KS 66611  
 Rock2Plate@aol.com

# THE GLACIAL DRIFTER



[www.topekagemandmineral.org](http://www.topekagemandmineral.org)

Facebook: Topeka Gem and Mineral Society Field Trips



The Glacial Drifter, Vol. 55, No. 3, March 2012

The Topeka Gem & Mineral Society, Inc.  
 Organized December 3, 1948  
 Member of Rocky Mountain Federation of Mineralogical Societies  
 American Federation of Mineralogical Societies

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; (4) to encourage greater public interest and education in gems and minerals, cooperating with the established institutions in such matters.

Meetings: 4<sup>th</sup> Friday of each month, except December, unless notified of a change, September – May, 7:30 pm, Stoffer Science Hall, Room 138, Washburn University. Picnic meetings held during summer months, June – August.

Dues: Individual, \$15.00; Husband and wife, \$20.00; Junior (under 18 years of age), \$5.00. Dues are due in December for the coming year; they are delinquent after the January meeting. Send dues to Millie Mowry, Treasurer 1934 SW 30<sup>th</sup> St., Topeka, KS 66611.

## 2012 OFFICERS AND CHAIRS

President	Mike Cote`	220-3272	Cab the Month	Debra Franz/Fred Zeferjohn	862-8876
1 <sup>st</sup> Vice Pres.	Dave Dillon	272-7804	Field Trip Coordinator	Larry Henderson	272-8444
2 <sup>nd</sup> Vic Pres.	Carolyn Brady	233-8305	Publicity	Christy Bien	608-1890
Secretary	Cinda Kunkler	286-1790	Welcome/Registration	May Springer	213-4321
Treasurer	Millie Mowry	267-2849	Property	M. Cote`/D. Dillon	220-3272
Directors	Jim Mowry	267-2849	AFMS Scholarship	Louellen Montgomery	354-1290
	Clyde Burton	478-4778	Editor/Exchange Editor	Millie Mowry	267-2849
	George Reed	836-9277	Show Chairman	Harold Merrifield	286-3548
Historian	Freda Tabor	273-0691	Show Dealer Chrm.	Dave Dillon	272-7804
Federation Rep	Harold Merrifield	286-3548	Show Secretary	Cinda Kunkler	286-1790
Corporation Agent	Millie Mowry	267-2849			
Librarian	Jim & Millie Mowry	267-2849			

Area Code for all numbers is 785.

## Meeting Minutes of the Topeka Gem and Mineral Society

Meeting of the Topeka Gem and Mineral Society – February 24, 2012

Mike Cote' called the meeting to order.

Millie Mowry reports there are 22 members (one joining tonight) and 1 guest present. Door prizes were awarded.

Millie Mowry made a motion to accept the minutes of our last meeting as printed in The Drifter and Rick Knight 2nd, motion carried.

Millie Mowry gave the treasurers report. Cinda Kunkler motioned and Marion Brown 2nd to accept the report, motion carried. No bills were presented.

Correspondence – Rock & Gem subscription discounts are available, see Millie, she also has discount coupons for the Kansas City show 3/09-11 and Wichita show April 20/21. Betty White has called requesting demonstrators for the KC show. Millie is also accepting dues.

Committee reports:

Larry Henderson-we will have a local field trip this Saturday. The Field Trip calendar is available.

Nothing new from the Show Committees.

New Business: Mike presented Marion Brown with the Member of the Year plaque. Harold Merrifield has volunteered to represent TGMS at the RMFMS convention March 15 in Albuquerque NM and he may try to go to the AMFMS convention later this spring.

With no further business George Reed moved and Louellen Montgomery 2nd to adjourn to our program. The program this evening is Mysteries Underground, by the National Geographic Society.

Fred Zeferjohn announced there are a total of 19 entries for the Cab of the month. The winners are:

Member Cab: Dave Dillon – Victoria Stone.

Jewelry winners: Dave Dillon – Opal & Silver Ring.

Class Cab Tie: Mike Scott – Agate & Cinda Kunkler – Mexican Tiger Eye.

NEW Class Jewelry: Christy Bien – Turquoise & Silver Bracelet.

Respectfully submitted by Cinda Kunkler, Secretary

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## From the President's Rock Stash

Members, Glad to see everyone at the last meeting. The program was real good. I really enjoyed it. Maybe I'll go on a cave trip, as long as someone will get as brave as I might. Hope to see everyone at the meeting.

Mike Cote & the Rock Stash

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## YOUR DUES IS DUE, AS OF DECEMBER 31, 2011

If you have a 'RED X' on your mailing label, your dues are due.

Send it to TGMS, % Millie Mowry, 1934 SW 30<sup>th</sup> St.

Topeka, KS 66611-1917 or bring it to the next meeting.

If you address, phone or email address has changed, let me know also at

[Rock2plate@aol.com](mailto:Rock2plate@aol.com)

The new Club Directory will be out in April.

## LESSONS

Classes are now being held at Mike Cote house. His mailing address is 4910 Clark Rd. Meriden, Kansas 66512. He has a large Morton building that we are using. Everyone is very pleased with the larger space we now have. It is still on Tuesday night from 6-9. Do a map quest to get driving directions or call Mike at 220-3272.

Dave Dillon, [davidd5124@aol.com](mailto:davidd5124@aol.com) Mike Cote, [mcote35@yahoo.com](mailto:mcote35@yahoo.com)

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## Dates to Remember

### Field Trip February 25, 2012

We had good weather Saturday for the field trip to Calhoun Bluffs. They found several trilobites, large crinoid plates, and the usual marine fossils.

### Fieldtrip Calendar

Trips dates are tentative and subject to additions and change. Call or e-mail Larry if you have an interest in any of these trips 272-8444 or [LHenderson85@gmail.com](mailto:LHenderson85@gmail.com) We meet at McDonalds, 11th and Kansas Ave.

### Scheduled TGMS Field Trips

Mar. 24	Local Field Trip	8:30 a.m. McDonalds
Apr. 28	Local Field Trip	8:30 a.m. McDonalds

### Other Opportunities

Mar. 30-Apr, 1 National Fossil Exposition-Western Illinois Univ., Macomb, Illinois  
Apr. 6-8 Lincoln, NE., Show Sat., 9 – 6; Sunday 10 – 5. Lancaster Event Center, 84<sup>th</sup> & Havelock.

### Crystal Dig

Anyone interested in a weekend trip to Mount Ida, Arkansas, to collect crystals at a fee dig, contact me. We need at least ten participants.

### Diamonds-Murfreesboro, Arkansas

Anyone interested in a five day trip to Murfreesboro, Arkansas, contact me. Tentative date: April 19-23, 2012. Come for part of five days or all.

What to bring on Fossil Hunting Trips: Something to pry fossils out of the ground. Long screwdriver, rock hammer, or pry bar Something to put items in. Plastic bags, boxes, bucket, Eye protection, Magnifying glass, Personal gear: Hat, to shade sun, Suntan Lotion, Bug repellent. Wear sturdy shoes.

Larry Henderson, Field Trip Chairman 272-8444 or [LHenderson85@gmail.com](mailto:LHenderson85@gmail.com)

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We need your **BEST CHOICE** UPC Labels --- Bring them to the monthly meeting.



## From Harold's Rock Pile

As some of you know I volunteered as a Delegate to the RMFMS. This is going to be a learning experience for me even though I attended one in Wichita 2 years ago. This time it is in Albuquerque, NM. I am looking forward to attending the show as well as the meeting. There should be some new stuff and dealers to meet and make purchases from. By the way I will be back from there for the next general meeting. Maybe I'll bring back some nice "stuff" things to show you.

This month's Mineral Of The Month is Compound-Stalactitic Quartz. This is a very unique mineral in that it was formed in a vug and it was from a very silicate-rich solution. Stalactite means hanging down. So you can see how this was formed. Then it makes you wonder how the crystals were formed in the cathedral amethyst vugs.

Quartz: A Silicon Dioxide (SiO<sub>2</sub>) mineral. Mohs Hardness; 7.0. Color; from clear to almost black. Fracture; Conchoidal, brittle to tough. Quartz is the most common mineral on earth, making up 75% of the total crustal weight of the earth.

This month's specimen was collected in India, Jalgaon District, in the state of Maharashtra. With a little magnification you can see what looks like growth rings, then the crystals all packed together. This is a fairly rare form of Quartz, found only in the vesicles (cavities) in the basalt of that region.

### From Harold's Rock Pile -- Rock on

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## Drop of Water Test for Topaz Quartz and Topaz

Topaz and Topaz Quartz are two quite different stones. They are not easy to differentiate by eye, and are sometimes impossible when the quartz is a true topaz color. There is a big difference in price between the two, and anyone describing quartz as topaz, however innocently, may well be in trouble.

Topaz is quite a different mineral, which is harder than quartz. Because of this, a drop of water will not spread on topaz, but will spread on quartz. Clean the stone as effectively as possible with a cloth or handkerchief to remove all traces of grease. It must be dry before the test. Then place a spot of clean water on it with a thin glass or metal rod. On stones with a hardness of less than 7 on the Mohs scale, the water is dispersed. On harder stones it will remain a globule. The harder the stone the more rounded will be the globule.

Source: Topaz Quartz (Wikipedia) Via Delvings Via Cutting Remarks Newsletter Jan 2012; Shawnee Slate March 2012.

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### Answers to the quiz on page 8.

1. A large diamond.
2. The outer zone, called the crust.
3. Quartz.
4. Because it consists of several different minerals.
5. Salty, It is the mineral used as common table salt.
6. By the cooling of molten rock.
7. Basalt.
8. Obsidian.
9. Pegmatite.
10. Meteorites.
11. The Missouri River
12. Quartz.
13. Iron.
14. Because it bends.
15. Diamond.
16. Gypsum.
17. Limestone.
18. A stalactite.
19. Anthracite.
20. Arizona.

## Cooking Tuxedo Agate

By: Daniel Bontempo, TGMS Member

Treating or enhancing gemstone is a controversial topic. Most objections pertain to high-end transparent facet-grade gems where any attempt to hide flaws could be fraud if not disclosed. Likewise artificial diamonds or pearls have much lower value than unflawed natural ones. In contrast, with semi-precious gemstones, it is often more acceptable to stabilize or heal material if it means colorful well patterned material can be rescued from the scrap heap. Many agates and jaspers have pits, soft spots, or partially-healed fractures. Sometimes whole varieties are known for their problems (e.g., Morgan Hill Poppy Jasper is notoriously fractured.) Perhaps this is because the small-dollar value of the slab or cabochon does not change a lot pre-post treatment, so it is not a financial fraud. As noted in an article about gemstone coloring on the on Mindat.org (<http://www.mindat.org/article.php/170/Historic+Methods+of+Artificially+Coloring+Agates>) website “*coloring of gem materials to make them more desirable to the consumer is as ancient as greed and avarice.*” Clearly potential financial motivations are a large part of the controversy.

Nonetheless, semi-precious stone treatments that *heal*, or other treatments that *color/enhance*, are not always viewed as negatively. Many semi-precious stone enthusiasts place value on *natural*, and healing (or stabilizing) with a transparent resin is generally perceived as less unnatural than changing the color or pattern of a stone. I personally have never liked the bright pink, neon purple, and aqua blue dyed Brazilian agate slices found in many gift shops. Besides looking very unnatural, some of the dye is toxic. I usually turn my nose up at *dyed* material. Sometimes, for some people, heat-treating to bring out reds and browns is not considered beyond the pale of natural. At least toxic chemicals are not involved, and natural variation/pattern is often preserved - only in deeper colors.

One process for dyeing/enhancing agate that I have become fascinated with is called the *sugar-acid process*, and it has a long history dating back to Roman times. This process can take an uninteresting pale grayish agate with light (sometime not too noticeable) white banding and transform it into a vivid agate with bold white bands against a stark black (or espresso brown) background. Essentially a dissolved sugar ( $C_nH_{2n}O_n$ , where n is between 3 and 7) is given time to penetrate the pore space of the agate, and subsequently heated acid is used to strip off the  $H_{2n}O_n$  atoms and leave behind the  $C_n$  atoms – pure black carbon. It is not known when this was first done, but Pliny The Elder (born 23AD, died 79AD), in his *Natural History* seems to describe this process using honey and vinegar (acetic acid). [Kurt Nassau quotes applicable passages from Pliny on p69 of the 2<sup>nd</sup> edition of his book *Gemstone Enhancement: History, Science, and State of the Art.*]

In 1800s gem cutters in Germany and elsewhere applied more modern chemistry. Nassau credits a German gem cutter in Oberstein and Idar with rediscovery of the process in about 1820. Sulfuric acid was found to work much better than acetic acid. Daniel Russell, who wrote the article (above cited) article at Mindat.org, excerpts several scientific publications from around 1850 describing the process in some detail. Particular emphasis is placed on the fact that not all agates are porous enough, and noting how water penetrates or beads on the surface can predict whether the agate can be treated. One of the most detailed recipes is given by George W. Fisher in his 1990 book on *Gemstone Coloration and Dying*, largely based on his one home experiments. (Text is available at: <http://www.ganoksin.com/borisat/nenam/black-dying-agate.htm>). On today's internet you can find various references to the sugar-acid process, or even recipe details. There are some discrepancies about the exact concentrations, times, and amount of heat/boiling needed, as well as recommended types of agate and slab thickness, so any adventurous lapidary wishing to practice this ancient art should expect to have to work some bits out or to engage in a bit of trial and error. For example Fisher mentions boiling acid, but the boiling point is listed on Wikipedia as 639 F, which seems hotter than the hotplate described by Fisher was likely to produce – likely he meant simmer at 300-400 F, where water

in less than 100% sulfuric acid can be seen to make vapor bubbles. Fisher recommends Brazilian Agate and agate from Coconut Geodes as having suitable bands in otherwise porous agate.

Periodically there has been modern commercial manufacture of small sugar-acid batches. My first introduction was via a stone called Tuxedo Agate produced by The Gem Shop in Cedarburg Wisconsin, and sold in Tucson shows in 2005. Nice cabochon pictures can be found at [http://thegemshop.com/osc/gal\\_cab\\_tux\\_05.php](http://thegemshop.com/osc/gal_cab_tux_05.php). Slabs, generally cut thin to insure penetration, were also sold. When I visited the store in 2010 small quantities still remained. A few ounce lot of several small slabs priced at \$70 or higher. When I inquired, Gene Mueller who owns The Gem Shop, told me they had used Moroccan Agate. Interestingly, very similar sugar-acid treatment is commercially applied to darken the matrix of Andamooka Opal from Australia. Since it is the matrix that is darkened and not the actual opal, this practice seem uncontroversial. For a good description with pictures see: <http://www.shed.com/aom/storyfile/matrix.html>. (I also note they simmer the acid at about 170 F). A slightly more homegrown method employing heated potpourri bowls is given by American lapidary George Bucholz (<http://www.shed.com/aom/storyfile/ammatrix.html>).

To date I have made 3 batches of Tuxedo Agate from some rather plain Moroccan Agate, and an additional batch with Madagascar Agate, crazy lace agates, and other experimental materials. I also re-cooked part of my first batch because only a dark brown coloring was initially achieved. I recently got some very plain Brazilian and hope to get it slabbed and into sugar water before too long. Another small batch has been in sugar solution for a very long time now, and spring one day I will have a patio cookout. Gloves, pot holders, tongs, eye-protection, fume venting, and all the usual sensible precautions apply. (This includes having a plan to neutralize and dispose of sulfuric acid. Washing soda is great to have on hand.) There have been a few glitches, and I am getting slightly less than 1/8" penetration, so 1/4" slabs may not color all the way through. I figure there is still room to tweak my process and the ideal agate for dying could be found any day. My efforts, complete with pre-post pictures and discussion of difficulties, disappointments, and successes have been posted on online lapidary forums (see links below). Anyone who would like to get more information or discuss this further is welcome to catch up with me at a club meeting.

<http://andy321.proboards.com/index.cgi?board=sawingb&action=display&thread=34092>

<http://andy321.proboards.com/index.cgi?board=sawingb&action=display&thread=33886>

<http://andy321.proboards.com/index.cgi?board=sawingb&action=display&thread=38119>

<http://andy321.proboards.com/index.cgi?board=sawingb&action=display&thread=38247>

A PDF copy of this article, with live links, is available on request.

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### Joke:

An old man walks into the barbershop for a shave and a haircut, but he tells the barber he can't get all his whiskers off because his cheeks are wrinkled from age. The barber gets a little wooden ball from a cup on the shelf and tells him to put it inside his cheek to spread out the skin. When he's finished, the old man tells the barber that was the cleanest shave he's had in years. But he wanted to know what would have happened if he had swallowed that little ball. The barber replied:

"You just bring it back tomorrow like everyone else does". Internet Humor!

## RHODOCHROSITE OR RHODONITE? by Larry Knapton

For a number of reasons, rhodochrosite is a very interesting and beautiful mineral. Its beautiful pale rose to wine-red colorations and varied patterns are alone enough, to create interest in the stone. However my recent interest in it arises from a couple of other reasons.

Number one, my wife, Donna, collects it in its more rare and beautiful crystal form; and secondly, thanks to Emil Pheiler, I've had the opportunity to cut some of the massive, colorful material that he collected last fall in California's central Sierra Nevadas. This nice colored material comes from the Mammoth Mountain region, and being within a full day's drive, makes it very attractive for a possible summer visit.

There has, however, been some recent discussion about this material as to whether it really is rhodochrosite or its look-alike rhodonite.

Upon discussing this with a few club members, my curiosity got the best of me and I decided to do some research into this subject. It appears that the main contributing factor in the confusion of the identification of this material from the Mammoth area arises from the fact that, upon casual observation, it appears very much like rhodonite because of the dark oxidized manganese markings it contains, causing it to strongly resemble rhodonite.

They both get their color from their manganese content. Their names are derived from the Greek words "rhodon", meaning rose, and "chrosis", meaning color.

This is where the resemblance ends. Rhodochrosite, having a hardness of 3.5 to 4.5, is a much softer material than rhodonite, with a hardness of 5.5 to 6.5.

This stems from another pronounced difference, their chemical makeup. Rhodochrosite is a manganese carbonate ( $MnCO_3$ ) giving rise to its softness. Rhodonite is a manganese silicate ( $MnSiO_3$ ), hence it is much harder.

Another means of identification which I confirmed by test is to place a few drops of warm dilute hydrochloric acid on a freshly broken surface of rhodochrosite; it will begin to strongly effervesce (bubble) and dissolve the material, while rhodonite is unaffected.

The rhodochrosite from this area, being massive, differs in form from the world famous, beautifully banded material from the province of Natamoraca in Argentina.

An interesting note: some of the best quality has come from a silver mine in Argentina, worked by the Incas and abandoned in the 13th century. Rhodochrosite has since grown up from the floor of the mine as a stalagmite formation. This proves that particular deposit to be no more than 700 years old.

Other noteworthy areas for very fine bright, showy rhombohedral crystal specimens are in Chaffee, Lake and Park Counties -- all in Colorado.

(from Rock Eag, Oxnard, CA, via COLOR COUNTRY CHIPS 7/88; reprint from The Glacial Drifter Nov. 1988.)

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Welcome Our New Member

Georgia Paulsen, 2480 NW 46<sup>th</sup>., Topeka, KS 66618, 785-286-1748 cell 785-220-7844  
gapaulson@sbcglobal.net

# Junior Page

## ROCK AND MINERAL QUIZ

1. **What kind of gem was the “Star of South Africa”?**
2. **From which zone of the earth do most rocks and minerals come?**
3. **Amethyst is a purple variety of which mineral?**
4. **Why is granite a “rock”?**
5. **How does halite taste?**
6. **How do igneous rocks form?**
7. **Which is the most common volcanic rock?**
8. **What is natural volcanic glass called?**
9. **What kind of rock contains the largest crystals?**
10. **Which kind of rock comes from outer space?**
11. **Which large American river is known as “old Muddy”?**
12. **Which is the most common mineral found in sand?**
13. **What is the coloring matter in most sandstone?**
14. **Why is itacolumite a peculiar rock?**
15. **Which gem is sometimes found in itacolumite?**
16. **Which sedimentary rock is used to make plaster?**
17. **Which sedimentary rock is used to make cement?**
18. **Which grows from the ceiling of a cave, a stalactite or a stalagmite?**
19. **What is the scientific name for “hard coal”?**
20. **Where is the best known petrified forest?**

(reprint from The Glacial Drifter Vol 33 No 6 Aug 1990)

## The Popcorn Mineral

Perlite, the unique, so-called popcorn mineral, is one of the most surprising actors in the entire mineral kingdom. Being a highly hydrated variety of volcanic lava, it expands with almost explosive force when brought quickly under high temperatures, between 1600 and 1700 degrees Fahrenheit. It is found in a number of localities in our Western mountains, but some of the best deposits are located near Lovelock, Nevada and Grants, New Mexico. A carload of crushed raw Perlite, when expanded, produces between 10 & 12 carloads of plaster making aggregated, and a cubic foot of the expanded pellets may weigh as little as two pounds. Almost unbelievable, but this is true, nevertheless. It will expand up to 20 times its original volume.

(reprint from The Glacial Drifter, Vol. 33 No. 5 June 1990)