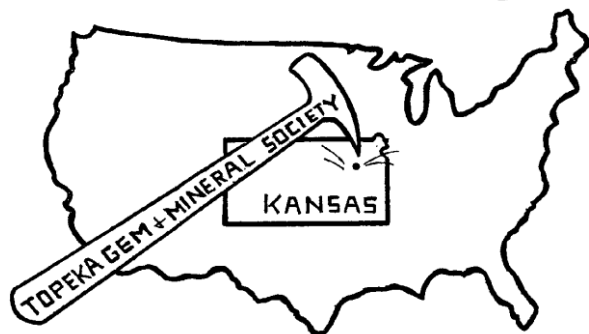


The Topeka Gem and Mineral Society, Inc.  
 1934 SW 30<sup>th</sup> St. Topeka, KS 66611  
 Rock2Plate@aol.com

# THE GLACIAL DRIFTER



[www.TopekaGMS.org](http://www.TopekaGMS.org) 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. 7  
 July 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: 4<sup>th</sup> 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 30<sup>th</sup> St, Topeka, KS 66611.**

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

## 2022 OFFICERS AND CHAIRS

President	Brad Davenport	379-8700	Cab of the Month	Donna & Russell Hedge	620-660-1651
1 <sup>st</sup> Vice Pres.	Will Gilliland	286-0905	Field Trip Coord.	Will Gilliland	286-0905
2 <sup>nd</sup> Vice Pres.	Cinda Kunkler	286-1790	Publicity	Donna Stockton	913-645-7677
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](mailto: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. July/22

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As everyone knows Brad is in the hospital this week for test. We know that it is not a fun time but a necessary one for all of us at one time or another. It is a time for the rest of the team members to step up and take an active part in TTGMS. You joined the club to be an active member and it takes a lot of help to keep everything going so that we all can enjoy the companionship and the joy of learning from each other the different aspects of lapidary skills that others have and are willing to share.

There are several things coming up that we need help in. First of all, the Publicity Meeting is this Wednesday and is noted elsewhere in this newsletter. They are planning for our upcoming show in October. Second is the Shawnee County Fair, held at the Stormont Vail Exhibition Hall. It is a three-day event and all you need to do is sit and talk to people about the club and the activities, and pass out coupons for the show. Bring something for show & tell, or wire wrap.

The Sertoma Duck Race is going on. It is a money maker for us. Go on line and purchase a duck.

<https://www.duckrace.com/topeka>

Our team is under Topeka Gem & Mineral.

As I mentioned our show is rapidly coming up. There are coupons that need to be given out, help is needed to do that. Check with Donna Stockton [donnaannstockton@gmail.com](mailto:donnaannstockton@gmail.com) or come to the Publicity Meeting.

There is lots of things, you as a club member can help with. A few of us can not do all the work by ourself.

Millie.....filling in for Brad

We need your **BEST CHOICE** UPC Labels --

Bring them to the monthly meeting, and give them to Cinda Kunkler.



# TGMS Event Calendar

JULY 2022			AUG. 2022		
1	F		1	M	
2	S		2	T	Brad's Shop Open 6-9:30pm
3	S		3	W	
4	M		4	T	Jr Rockhounds, UUMC 6 p.m. sign in
5	T		5	F	
6	W		6	S	
7	T		7	S	
8	F		8	M	
9	S		9	T	Brad's Shop Open 6-9:30pm
10	S		10	W	
11	M		11	T	
12	T	Brad's Shop Open 6-9:30pm	12	F	No Board Mtg.....
13	W	Publicity Meeting Elmont United Methodist Church 7 p.m.	13	S	
14	T		14	S	
15	F		15	M	
16	S		16	T	Brad's Shop Open 6-9:30pm
17	S		17	W	
18	M		18	T	
19	T	Brad's Shop Open 6-9:30pm MAYBE	19	F	
20	W		20	S	
21	T	Shawnee County Fair 10- 6p.m.	21	S	
22	F	General Meeting UUMC 6:00 p.m. Shawnee County Fair 10-6 p.m.	22	M	
23	S	Shawnee County Fair 10- 4p.m.	23	T	Brad's Shop Open 6-9:30pm
24	S		24	W	
25	M		25	T	
26	T	Brad's Shop Open 6-9:30pm	26	F	General Meeting UUMC 6:00 p.m.
27	W		27	S	
28	T		28	S	
29	F		29	M	
30	S		30	T	Brad's Shop Open 6-9:30pm
31	S		31	W	

**If you are interested in Wire Wrap Classes, contact Millie, 267-2849 or [rock2plate@aol.com](mailto:rock2plate@aol.com)**  
 Check out the calendar on our web site [www.TopekaGMS.org](http://www.TopekaGMS.org)

**ALL MEMBERS.....SAVE THE DATES.....**  
**OCT 7 thru 9<sup>th</sup>, 2022**

That is when our club show happens and we need EVERYONE to HELP not just for an couple of hours. Tell your boss you're sick, play hooky from work, take vacation days but we need your help. Sign up sheets will be available soon.

## 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](mailto:Fleetcommander@att.net)



Next Class: Aug 4, 2022 Gold Panning & Prospecting....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.

## FROM DIAMOND DAN'S MINI MINERS MONTHLY VOL.14, NO.5, MAY 2022

There is a really fun and well-organized special group on Facebook. It is called "Rock Swap." The Facebook page heading has a quote, "Friendship: It's not a big thing. It's a million little things."

"Rock Swap" was started by Stephen Eskes, a mineral collector from South Branch, Michigan. (He is also a fireman.) He wanted to give kids a chance to meet other mineral collectors and be able to trade specimens with each other. There are right now about 4,100 members! This Facebook group has grown much faster than he ever expected. It is now so big that he has other people helping to watch over (moderate) the page.

How can you join "Rock Swap"? It's very easy. Search for the group on Facebook. You will ask to join the group.

Before you join you will have to answer some questions. Then one of the moderators will add you to the group (as long as you promise to follow the rules! That's one of the questions.)

One of the things that Diamond Dan loves about the group is that it does not allow advertising! It is a group for young mineral collectors who want to trade specimens, make friend connections, and enjoy the mineral hobby. In a world where every website and every TV program has a lot of advertising, it is so great to have a place you can go and know that you will NOT be hounded with advertisements.

One of their special events every year is a "Secret Santa" experience in December. Mr. Eskes and his friends randomly match up the group's members in pairs. If you want to do this, they will give you the name and address of another member and you can send a mineral specimen to that person.

Another person will send you a mineral specimen. It's a lot of fun. You will make a new friend, or two, in the process.

Source: Pick & Shovel July 2022



The Sertoma Duck Race has started for 2022

<https://www.duckrace.com/topeka>

Purchase your Ducks under Topeka Gem & Mineral as it is our only fund raiser of the year.

The Race is September 17, 2022 at Lake Shawnee.



**We will be at the 2022 Shawnee County Fair again this year and can use your help! Thursday July 21 10am-6pm, Friday July 22 10am-5:30 pm (leaving early to be at picnic), Saturday July 23 10am-6pm, and Sunday July 24 10am-4pm. We will be handing out information and show coupons to generate interest in our club. You can bring any rocks that you want to show off, wire wrap projects to work on, beading or rocks to paint, any other projects you might have to show off. Just come help out if you can! We can always use a break even if you can't stay long. Juniors can bring their projects to display - all help is appreciated. Contact Cinda 785-286-1790 or [cindakunkler@att.net](mailto:cindakunkler@att.net) (cell) 785 231-4635.**

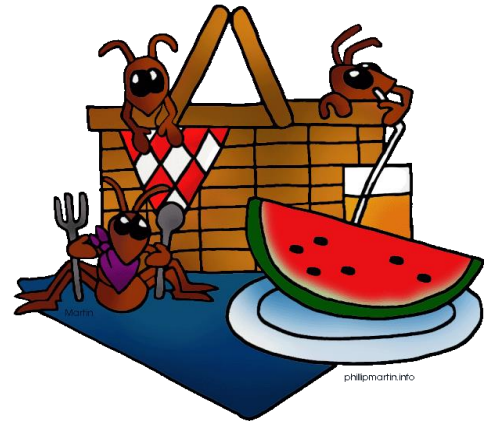
### **For those interested there will be an auction:**

Ford & Ford has scheduled the two-day auction for September 24 and 25, 2022. Watch their website for more information as it becomes available. <http://www.fordfordauctioneers.com/index.php/features/item/936-upcoming-2-day-rock-auction-saturday-september-24th-sunday-september-25th-2022-geneva-ne>  
(This is some of the items: there were 38 pallets with each pallet holding at least 9 five-gallon buckets. Additionally, there were about 200 flats.)

*Welcome to our new members.*

*Jonathan & Nayla Boyd  
Gabe\* & Sammy\* Boyd*

The next meeting will be another picnic. This time after we eat, we will 'Play Games', not sure what they will be just yet, but they will be rock related. The club will have some video's available for purchase and a few books. Set up / gathering at **6:00**, we will eat at **6:30**, on Friday July 22nd. Please bring a dish or two to share, table service and something to drink. If you have allergies - it is always OK to bring your own food to eat. Just come and join us!



July 22, 2022  
At UUMC, 1621 SW College  
Join us for our summer time fun.  
Bring your favorite dish or two to share, table service, and something to drink.



(No ants allowed!)



## SQUARE POINT OF SALE IS HERE NOW!

We have added this feature so that, membership dues, shop fees, show admissions, and other purchases can be made.



Does anyone want name badges before the show? Now is the time to order them. They are less than \$8 each. See Millie to order them.  
267-2849 or [rock2plate@aol.com](mailto:rock2plate@aol.com).

## Quartz Crystals and How They are Formed

from The Ammonite, July 2013

**Types** -People usually think of quartz as a clear rock crystal, but quartz comes in many colors and appearances. Some types of crystals in the quartz family are rose quartz, amethyst, tiger's eye, carnelian, aventurine, onyx, jasper, and agate. Quartz are unusual as they can be both, projective or receptive to energy, and clear rock quartz is one of the few crystals that can do both. Projective crystals radiate energy, and receptive stones absorb it. The chemical formula for quartz is SiO<sub>2</sub>, also known as silicon dioxide. The earth contains a large amount of silicon dioxide, since it is more common in the earth's crust than other more complex chemical formulas, including silica and oxygen. Quartz is present in many other types of rock, including granite, sandstone, shale, schist, gneiss, quartzite, and various other rocks in all three major categories--igneous, metamorphic, and sedimentary.

**Natural Formation Quartz** can be formed naturally from the silica which collects in the earth. When silicon (Si) and oxygen (O<sub>2</sub>) combine, it will create silicon dioxide (SiO<sub>2</sub>), which is quartz. For this reason, quartz will form underground quite easily whenever a combination of oxygen and silica-rich solutions are present. The formation of quartz is generally at an angle, as the dripping of the solution causes quartz to form atop itself, which explains the quartz "spears" sometimes seen in nature. Quartz contains a crystal lattice and does not require any specific temperature or pressure to form, occurring naturally from the presence of its component parts. Unnatural Formation In spite of the vast amount of naturally occurring quartz, most quartz used for industrial purposes is man-made. A heat treatment can be used to synthesize various types of quartz, especially by the use of high pressure and temperature in water. Most commonly, silicic acids (those that contain silicon) will be broken down in water where the SiO<sub>2</sub> from the acid will be separated from the H<sub>2</sub>O, thus creating water and quartz. As heat in a solution drops, the saturation point will be lowered, causing additional crystals to form.

**HOW TO FIND QUARTZ CRYSTALS:** To begin your quartz search, make use of a mineral-collecting map to find the closest area near you. Many of these maps will point out areas that offer known quartz deposits and mines where quartz has been found. However, make sure that the mine allows public access. If you know of areas where an old creek or stream once ran, these can be prime areas for finding quartz. Also check under trees or along the banks of active streams and creeks. Depending on your location, do some research on the area and the types of crystals that are typically found there and familiarize yourself with them. A common type of quartz found is the smoky quartz, so called due to its dark grayish tones. Scout out for places in the soil where the underlying rock comes up to the surface. Also be on the lookout for quartz that may have been unearthed by previous searchers. Once you have found a quartz crystal, examine it closely to ensure that it is what you want. Many pieces of quartz are attached to larger rocks, so you will need to use your pick or rock hammer to carefully chip it away from the rock.

([http://www.ehow.com/facts\\_5418173\\_quartz-crystals.html#ixzz2XTQPIKAn](http://www.ehow.com/facts_5418173_quartz-crystals.html#ixzz2XTQPIKAn))

**HOW TO CLEAN QUARTZ CRYSTALS** (From "Rear Trunk", the Nebraska Gem and Mineral Club, June-1996) Remove all dirt from crystals. Put them in a container that can be heated. Dissolve about 1 cupful of powdered oxalic acid in 2 ½ gallons of water. Cover crystals with this acid solution. Cover with a lid; steam 3-6 hours over heat source-(like a hot plate) **DO THIS OUTSIDE ONLY!!** Let container of crystals cool for several hours. Rinse the crystals in clean water. To dispose of acid solution, neutralize it with baking soda. Don't breathe the fumes. Wear Rubber gloves. Always add **ACID TO WATER**, not water to acid.

Another report states oxalic acid solution can be used cold-just let crystals sit in it for several days. Wash/neutralize water.

Crystals with reddish iron spots: At Tractor Supply (other store like it), you can buy "Iron Out."

**Clean crystals**, dissolve Iron-Out in tap water, enough to cover crystals. Use a plastic bucket or glass jar. Let stand for several days. This method does not require heating, but you should still wear rubber gloves and don't breathe the fumes.

Rocky Mountain Federation News—August 2013

## Rocky Mountain Federation of Mineralogical Society's (RMFMS) annual meeting report.

Cinda (who is the Historian) & I attended the RMFMS Annual Show and Convention June 17-19, 2022, in Las Vegas, Nevada. The show had in the neighborhood of 30+ vendors is a space similar to that of the Ag Hall at the Stormont-Vail Convention Center where we have our show every October. The show, convention and our lodging were all at the Orleans Hotel & Casino.

Turn out for the RMFMS Delegates Meeting was much smaller this year due to inflation and the price of gas. Each club in the RMFMS is given two Delegates to vote on Society business. We did not have a quorum this year and were not able to vote on any business, so the meeting was abnormally short. Still, it was good to see old friends and get updated on RMFMS matters.

Of particular interest to The Topeka Gem & Mineral Society (TGMS): The American Federation of Mineralogical Society's (AFMS), to which the RMFMS & The TGMS belong, hit a milestone this year by surpassing \$2,000,000 in scholarships funds. Through the AFMS Scholarship Foundation our RMFMS is able to award two \$4000 scholarships each year to graduate students majoring in the Earth Sciences. Unfortunately, only four clubs and one individual contributed this year, to date. Of the total \$3,374 donated, The TGMS donated \$50. We sure would like to see that amount increase in the future. The good news is, that brings The TGMS percentage of donations to 15,800%!!!! That is the highest among all clubs in the RMFMS!

Normally, there would be other subjects of interest to our club but due to the low turnout many issues were not addressed.

For anyone interested, tentative RMFMS shows and conventions for the next three years are:

2023 - Casper, WY. 2024 – Oklahoma City, OK. 2025 – Grand Junction, CO.

Respectfully submitted by Chuck & Cinda

P.S. Cinda received the coveted Gold Pan Award for Outstanding Service to the Rocky Mountain Federation of Mineralogical Societies. Yeah Cinda! You go Girl!!!

Chuck Curtis, Federation Rep.

## Pellon

Pellon, a manmade fabric used as stiffener in suits and dresses, makes a fine polishing buff. It polishes quickly, doesn't heat, doesn't orange peel and is extremely economical for polishing. Once charged with your favorite polishing agent, you can almost throw away the old polish jar and just add water.

Since pellon is a thin material, it must be used on a reasonably stiff backing such as 1/8 inch gasket of rubber or cork. One problem is finding a suitable adhesive....the stuff is practically unstickable. Put waterproof cement on both pellon and disc. Allow to dry slightly and stick together. Be careful to avoid wrinkles and bubbles.

Pellon is available by the yard from any fabric store, Get medium weight,  
(A reprint from The Drifter Feb 1987)

Q.: If athletes get athletes' foot, what do astronauts get?

A.: Missile toe.

(Reprint from The Drifter May/June 1985)



## **The McCondra Report...** **by Barbara McCondra** **“Black Opal”**

As Primitive Man so cherished a hot, red fire in the blackness of night, so do gem lovers of the world value above all other opals, the red on black opal. Every gemstone category has its primadonna and the red multicolor black opal can command \$20,000 plus per carat.

Many factors contribute to the identification of such a superb gem black opal. The location of its mine of origin is the first consideration, Australia being the most desirable as the gem quality opal there is of sedimentary formation rather than volcanic. It is Australian black that I refer to now. The blackness of the base color, the brilliance of the fire, the predominance of red, the richness of the red, the quality of the other colors with the red (heliotrope, yellow, cornflower blue, electric green, gold bronze) the rareness and desirability of the pattern of the fire, the directionality of the fire (is the color play "ON" at all angles of viewing), the fluidity and mobility of color and pattern, the shape and size of the stone, and the overall composite appeal of all these factors. All of these are a part and parcel of the gem look, that special magic, hence gem value, of the opal.

Opal aficionados have their individual preferences, but market consensus gives top dollar value to red on black. The Red Robin, Red Admiral, Black Prince, Pride of Australia, Firestorm, The Flamingo, The Cardinal, The Southern Princess, and The Flame Queen are among the list of precious, world renown, red on black gem opals. A list could be made too of many secretly bought and sold exquisite stones if it all were not so exactly that, secret! The lists go on and on. Both the famous named and the secret red on black beauties commanded royal prices.

The colors within an opal have been observed by electron microscope to be the result of the breaking up of light into the spectral colors. Red is the color caused by diffraction of light at the interface of the voids which are created by the three dimensional grates of 3,000 to 4,000 angstrom wide silica spheres. The diameter of the spheres control the size of the voids. For simplicity, envision stacks of egg cartons with the egg cups representing the silica spheres and the spaces between the cups, the voids.

To explain the blackness of the opal from which the red fire flashes is not as easy. I can tell you that all potch (opal with no fire/common opal) is made up of irregularly shaped and irregularly stacked silica spheres. However, potch can be many colors ranging from clear, white, yellow, green, orange, red, grey, charcoal, black, to glassy black. There is contro-versy over what it is about black potch that makes it so black. These assort-ed theories range from formation in black swamp water, carbon molecules, manganese presence, to properties inherent in the structure that causes the absorption of white light resulting in non-light or black. I leave this argument to the scientists.

To the romantics, the poets, the opalholics, I liken the magic of the red on black to the red heart of Australia, its fiery desert sunsets, its redback spiders (themselves tiny replicas of a black cabachon with a bloodred spot) that appear to be the guardians of every opal mining shaft, and the dancing flashes of red in a black Antarctic sky known as the Aurora Australis.

To the investment minded collector I equate the red on black opal with the pink diamond, the Burmese pigeon blood ruby, the Colombian blue green emerald, and the Tahitian Peacock or Aubergine black pearl.

To the historian I tell the tale of hope for another season of mining being paid for with the proceeds of a red on black beauty found a red eyed gouger in the face of his drive fifty feet underground in Lightning Ridge, Australia. I tell you of the old timers in the early 1900s that used to throw away the beautiful blue/green stones because it was only the red on blacks that were marketable. Many a modern day miner has made money on processing the throw away stow dirt from that time frame. Nearly with tears in my eye, I tell you of the famous "Black Prince", which was dropped onto the floor and broken in two, but due to its good size and quality still retained great value.

Be it the past or the present, each miner dreams of red on blacks as he stares into the comfort and company of his evening fire. He is mesmerized by the red glowing coals into reminisces of long gone red beauties he has mined or had the privilege of viewing. Mostly he conjures up visions of the prized red on blacks his day's traces promised him will be forthcoming, perhaps in the next few tons of dirt he shifts.

(Source WGMS July 2019)

## **Black Coral** **by Tom Taffel, member SFGMS** **There's Coral... and then there's Black Coral.**

Actually there are more than 500 species of coral, (antipatharians), but only 150 species of black corals. From Hawaii alone, come 14 species of black coral. But the most rare of all black corals comes from the Western Caribbean off Grand Cayman Island from depths of over 200 feet.

The growth rate of this rare black coral is 1/4 to 1/2 inch diameter - every 100 years - which is why it's a protected species by international law and divers are only allowed to retrieve pieces which have broken off a reef naturally (in spite of its firm attachment to the sea floor).

Black corals are carnivores and have a hardness ranging from 4.0 - 5.5 and a density of 2.43 - 2.70 and are found in all oceans, most common-ly in deep water habitats of tropical and subtropical seas. Of the 150 species of black coral, some can be found on reef slopes in water as shallow as 3 feet and as deep as 300 feet. Black coral has actually been found growing in depths of up to 20,000 feet. But coral larvae living in shallow waters will always be found in shaded areas where light is extremely limited. Black corals are colonial animals related to sea anemones. Colonies of black coral require swift currents which feed them animal plankton over their polyps. Black coral colonies thrive in deep, and therefore dark waters, usually near drop-offs and ledges.

It is the skeleton of the coral we see in jewelry and not the living coral that produces it. "A thin veneer of animal tissue, called the cenosarc, secretes the tightly-layered central skeleton of horn-like protein. Depending on the species, the living tissue may be black, red, orange, brown, green, yellow or white. The gelatinous polyps located in this living "bark" are short and cylindrical, their six, non-retractable tentacles are armed with stinging cells."

"Relatively little is known about the life cycle and reproduction of black corals. Like other cnidarians, black corals have life cycles that include both asexual and sexual reproduction. Asexual reproduction

(budding) builds the colony by adding more living tissue that in turn secretes more skeleton. Regular growth rings laid down as the skeleton thickens can be used to estimate the age of the colony. Sexual reproduction involves the production of eggs and sperm to create young that can disperse and settle new areas. Polyps are either male or female, but a single colony may be hermaphroditic, with both male and female polyps. The larval stage, called a planula, can drift with currents until a suitable surface is found. Once the larva settles, it metamorphoses into a polyp form and secretes skeletal material that attaches it to the sea floor. Then it begins budding, creating more polyps that will form a young colony. Asexual reproduction can also occur naturally by fragmentation of branch ends."

"Black coral has been harvested for centuries as a charm and a medicine. Early peoples of many cultures believed that black coral had the power to ward off evil and injury. The name, 'antipathies,' means 'against suffering.'"

Hawaii's state gem is black coral as of 1987.

Renowned American designer and master sculptor Bernard Passman has turned black coral into a popular art medium and created works of art for Princess Diana, the Queen of England, President Nixon and Pope John Paul II. For Charles and Diana's royal wedding Passman created a 97-piece black coral and sterling silver tableware service followed by an 11-piece set (in miniature) for Prince William.

The tools used in cutting and carving black coral are similar to those used by dentists. Bernard K. Passman galleries are located in Georgetown, Grand Cayman Island; St. Thomas, U.S. Virgin Islands; Las Vegas, Nevada; New Orleans, Louisiana; and Ketchikan, Alaska. Bernard Passman has been granted a special permit to work with rare and precious material known as the black gold of the Caribbean. Speaking of gold, his beautiful rings sell for \$20,000 and his famous Ziegfeld girl has a value of \$135,000. Other objets d'art, sculpture and jewelry of Bernard K. Passman can be seen at: [www.passman.com](http://www.passman.com).

<http://www.sfgms.org/articles/blackcoral.html>

(Source WGMS July 2019)