Mini Miners Monthly

A Monthly Publication for Young Mineral Collectors

Dear Mini Miners,

This is the last issue of *Mini Miners Monthly*. The original plan was to continue until the December issue. However, other demands are making it increasingly difficult to produce a new issue once a month. Also, those readers who have been with Mini Miners for years may have noticed that some of our material is beginning to repeat from earlier issues. It is becoming increasingly difficult for me to create new, interesting, meaningful material. In the last nine years we have produced 113 issues and approximately 2,260 pages of content. I'm just running out of ideas!!

Through the years a number of really talented young people have provided mineral drawings, articles, pictures of projects and more. However, no young collector has been more important to Mini Miners Monthly than Emma Fajcz. Emma has been our Consulting Editor for many years. In many ways she has grown up with us! Her articles have been very well-written, well-researched and accurate. She is very careful about citing her sources. She is talented, hard-working, and a trustworthy employee. I cannot express enough my admiration for Emma and my gratitude for her contributions through the years.

This last issue is dedicated to Women and Girls who are an ever-growing presence and power in the worlds of mineral collecting and mineralogy. Some of it is material that we first published in 2009. However, some of it is brand new. It seems fitting that this last issue features a number of articles by Emma, a young woman with many talents.

By ending Mini Miners Monthly early, some of our customers will be receiving a refund for the 3 issues not provided. Checks will be issued and mailed by the end of October.

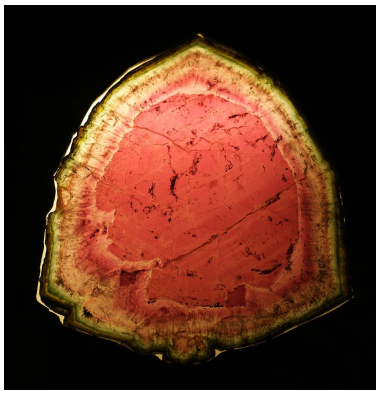
Thank you for your faithful support of Mini Miners Monthly through the years. This endeavor would be worthless without your use of these materials. Diamond Dan Publications will continue with educational books, booklets and materials about minerals, mineralogy, fossils and paleontology. We are also adding a series of educational puzzles. Please continue to visit our website for fun, educational materials.

Emma and I lastly thank God for this opportunity to create articles, artwork, poetry and activities for young mineral enthusiasts. We have been blessed by the work. More importantly we have been blessed by you. As people of faith, we give the credit to God who makes all this possible. And we end by saying, God bless you!

Mystery Minerals

BY EMMA FAJCZ

This month, I have a quiz for you to see how much you know about a few common minerals. I will give you clues about each mineral, and then you will try to guess what it is called. Do your best to not look at the answers at the end of this article until you have completed all the questions! Perhaps you might want to quiz your parents, another family member, or a friend once you're done.



MINERAL #1

With a hardness of about 7 to 7.5 on Moh's scale of hardness, I'm about the same hardness as Mineral #4. Sometimes, I look similar to a slice of watermelon, with a brilliant green "rind" and bright pink interior. When you look at me from different angles, I often appear to change color, depending on what color I am originally. I usually form in long crystals that are sometimes more than one color. If I'm good enough quality, gem cutters cut me into beautiful faceted gems that go into jewelry.

I'm called _____.

MINERAL #2

When you look through me, it looks like you're seeing double of everything! That's a special property called double refraction. Although I can occur in a few pale colors, including yellow, green, purple, and red, a lot of times I'm clear and not any color at all. I'm pretty soft, with a hardness of 3 on Moh's scale. Under shortwave ultraviolet light, I glow blue; under longwave ultraviolet light I glow pink. Like Mineral #1, I can be faceted into gems for jewelry.

I'm called _____.

MINERAL #3

I'm a shiny, metallic-looking mineral that has often tricked people into thinking I was gold! My favorite crystal shape to form in is a cube, but I can form a few other shapes too. One of these other shapes looks like a sand dollar. Sometimes you might even find me inside a fossil. I'm a fairly hard mineral, with a 6-6.5 on Moh's scale. A good while ago, I was used in radio receivers. More recently, I've been used in a certain brand of rechargeable batteries.

I'm called _____.

MINERAL #4

You'll probably find me in almost every mineral collection. I occur all over the world in many different colors. Often, you'll see me in the shape of a six-sided column topped with a six-sided pyramid. On Moh's scale, I'm a 7. Throughout the centuries, I have been cut and carved into pitchers, sculptures, and other items. I also have the ability to split white light into its respective colors: red, orange, yellow, green, blue, indigo, and violet. Nowadays, I'm also used in many clocks and watches to help keep accurate time.

I'm called _____.

MINERAL #5

In my natural state, I'm almost always around the shades of sky blue and robin's egg blue. Frequently, veins of tan or brown will weave through the blue to create a fascinating effect. You'll usually see me in a mass or in rounded lumps called nodules. Although I have a hardness of 5 to 7 on Moh's scale, I'm really brittle and can crack or break fairly easily. I've been used for thousands of years as an ornamental mineral in jewelry, masks, tiles, and more. I can be found in several places around the world, especially in the southwestern United States.

I'm called _____.

MINERAL #6

My name is derived from a huge river in South America, even though I haven't been found near that river and I've been often found in Russia and the United States. Despite having a Moh's hardness of around 6 to 6.5, I'm rather brittle. Even though I am microcline feldspar, I am known by a different name as a result of my brilliant aqua or green coloring. Some people think that a little bit of lead and water are responsible for my bright colors. Since many mineral collectors like my colors and crystals, I'm often displayed on shelves or sometimes even fashioned into jewelry.

I'm called _____.

MINERAL #7

To many people, I am known as the world's most colorful mineral since I occur in multiple shades of many colors. In a lot of specimens, I appear in bands or stripes of different colors. I'm strongly florescent in some specimens, which means I glow in a different color like blue or green under ultraviolet, or UV, light. In other samples, I barely glow under UV light at all! On Moh's scale, I am a 4. I contain the element fluorine, which might be found in your toothpaste or drinking water.

I'm called _____.

Photo Credits

Figure 1: "Tormalina policroma, da madagascar o namibia, 03" by Sailko - Own work. Licensed under CC BY 3.0 via Wikimedia Commons - https://commons.wikimedia.org/wiki/File:Tormalina_policroma,_da_madagascar_o_namibia,_03.JPG#/media/File:Tormalina_policroma,_da_madagascar_o_namibia,_03.JPG

Figure 2: "Microcline-142194" by Rob Lavinsky, iRocks.com – CC-BY-SA-3.0. Licensed under CC BY-SA 3.0 via Wikimedia Commons - https://commons.wikimedia.org/wiki/File:Microcline-142194.jpg#/media/File:Microcline-142194.jpg

ANSWER KEY

1. Tourmaline
2. Calcite
3. Pyrite
4. Quartz
5. Turquoise
6. Amazonite
7. Fluorite

Minas Gerais: Brazil's Jewel

By Emma Fajcz

In research for my *Mini Miners Monthly* articles, I have come across an amazing variety of minerals from a certain state in Brazil called Minas Gerais. The name is quite fitting of this area; most people translate it as "General Mines." As the fourth largest state in Brazil, it has an area of about 226,459 square miles and is located near Brazil's southeastern coast. A look at Minas Gerais' coat of arms demonstrates how important mining has been in its history. At the center of the coat of arms is a lantern, most likely a miner's lantern, with a pair of crossed pickaxes.

Figure 1: The coat of arms of Minas Gerais. Notice the pickaxes and lantern in the center.

Figure 2: A map of Brazil showing the size and location of Minas Gerais in red.

What minerals are found in Minas Gerais? According to an article about Minas Gerais on Mindat.org, nearly five hundred different kinds of approved minerals have been found in Minas Gerais, including labradorite, amazonite, tourmaline, wavellite, beryl, and kyanite. In addition to these minerals, the element gold was mined here mostly from 1698 to 1800, since much of the gold had been mined out by the nineteenth century. This state also produces large crystals of quartz.

Long ago there were productive diamond mines located in the northern part of Minas Gerais, but all the diamonds have been already extracted. However, like the gold miners, the diamond miners unfortunately wasted much of these precious resources by using inefficient mining methods. Many people depended on gold for their income, so when the gold began to dwindle, they had to look for other ways to earn money. A lot of the people turned to farming and raising livestock. Nowadays, Minas Gerais produces diamonds for industrial applications like abrasives.

Figure 3: This beautiful example of goshenite, a rare type of beryl, comes from the southeastern part of Minas Gerais.

Over time, iron mining has become more and more profitable. A large deposit of iron ore without many impurities is located in part of the Espinhaço Mountains, which is a mountain

range reaching from around Minas Gerais' capital Belo Horizonte northward into another state named Bahia. A mining company was started in Minas Gerais around 1910, mining out the state's gigantic iron ore deposits. Although it has changed hands and names a few times, it is now known simply as Vale. It is now the world's third largest mining company, with mines for iron, nickel, copper, and other natural resources in multiple countries.

Figure 4: This is some jaspilite, which is a rock often composed of hematite and quartz, from the Iron Quadrangle. It also typically contains a lot of iron.

A certain part of Minas Gerais, known as the Iron Quadrangle, was a major gold mine until 1983. The Iron Quadrangle also produces about 440 pounds of high-quality emeralds each month. These emeralds are of good enough quality to be faceted by lapidaries and used in jewelry. If you look on a map of Minas Gerais, look for the cities Itabira and Nova Era. The Iron Quadrangle is located around these two cities.

Figure 5: A fine example of emerald from Itabira, Minas Gerais. Although this specimen isn't of good enough quality to facet, it still illustrates beautiful color.

Do you remember the Dom Pedro aquamarine that is in the Smithsonian Museum of Natural History? This spectacular example of aquamarine, which is a variety of beryl so named for its brilliant aqua color, was found in Minas Gerais nearly forty years ago.

It's hard to believe that so many minerals and other resources like gold and iron can be found in just one state in Brazil. That makes Minas Gerais a valuable treasure that deserves to be used wisely and productively so everyone can enjoy its beautiful scenery and minerals.

Illustration Credits

Figure 1: "Brasão de Minas Gerais" by Decreto nº 6.493 - de 5 de fevereiro de 1924 - Original upload by Maislucinha. Licensed under Public Domain via Commons - https://commons.wikimedia.org/wiki/File:Bras%C3%A3o_de_Minas_Gerais.svg#/media/File:Bras%C3%A3o_de_Minas_Gerais.svg

Figure 2: "Brazil State MinasGerais" by Raphael Lorenzeto de Abreu - Own work. Licensed under CC BY 2.5 via Commons - https://commons.wikimedia.org/wiki/File:Brazil_State_MinasGerais.svg#/media/File:Brazil_State_MinasGerais.svg

Figure 3: "Beryl-133840" by Rob Lavinsky, iRocks.com – CC-BY-SA-3.0. Licensed under CC BY-SA 3.0 via Wikimedia Commons - https://commons.wikimedia.org/wiki/File:Beryl-133840.jpg#/media/File:Beryl-133840.jpg

Figure 4: "BIF (jaspilite meta-BIF, Paleoproterozoic Minas Gerais" by James St. John - Hollywood Granite (jaspilite meta-BIF, Paleoproterozoic, Iron Quadrangle District, Minas Gerais State, Brazil). Licensed under CC BY 2.0 via Commons - https://commons.wikimedia.org/wiki/File:BIF_(jaspilite_meta-BIF,_Paleoproterozoic_Minas_Gerais.jpg#/media/File:BIF_(jaspilite_meta-BIF,_Paleoproterozoic_Minas_Gerais.jpg

Figure 5: "Beryl-166739" by Rob Lavinsky, iRocks.com – CC-BY-SA-3.0. Licensed under CC BY-SA 3.0 via Wikimedia Commons - https://commons.wikimedia.org/wiki/File:Beryl-166739.jpg#/media/File:Beryl-166739.jpg

PLAYING WITH COLOR

Interview with Audie/Anne Bair-Saltzgaber
By Emma Fajcz

Audie/Anne Bair-Saltzgaber is a member of the Golden Isles Gem and Mineral Society and Cobb County Gem and Mineral Society. Besides Cabochon Instructor for nine consecutive years, Lapidary Workshop Foreman, Corresponding Secretary, Photographer, and Workshop Scheduler for CCGMS, Mrs. Bair-Saltzgaber holds a lifetime membership to that society, which she originally joined in 2004. She also taught a few classes on lapidary work such as making cabochons at William Holland School of Lapidary Arts in Young Harris, Georgia. Mrs. Bair-Saltzgaber's favorite mine that she has visited is the Hogg Mine in LaGrange, GA. She also enjoyed the four-day Geode Fest in Keokuk, Iowa. Mrs. Bair-Saltzgaber loves collecting minerals and cutting them in her spare time, especially opals.

Figure 1: Mrs. Bair-Saltzgaber at her Pixie machine.

1. Who or what got you interested in opals?

My interest in cutting rocks was first sparked in 2004 when I saw a beautiful cab in the Marietta Square. It was a landscape agate that looked like trees, a lake, and a path. I should have bought it, considering how much it inspired me!

I bought some material from eBay, and asked a company how much they would charge to have it cut. After hearing that it would cost sixty dollars, I thought to myself, "I can cut this myself for a lot less money!" This got me into the world of lapidary arts. I asked a friend how to get started, and I got a slant lap machine. When I got confused about how to use it, my friend helped me understand. Ever since then, I've been making cabochons.

My interest in opals was sparked when a dear friend gave me many tumble-polished opals in 2009. Once I thought my skills were good enough , I started to cut them a few years ago.

Figure 2: One of Mrs. Bair-Saltzgaber's carved Australian opals.

2. Why do you enjoy cutting opals?

When I'm cutting, I get in a special zone of concentration. I just keep cutting a piece until a hit a problem. Then, I set it aside and move on until I figure out what the problem is, and then I go back to finish it. It's just an exciting, creative process.

Another reason is that I love the brilliant colors found in many opals. I also find it exciting to carve out the matrix, or surrounding material, to see the beauty inside. This results in

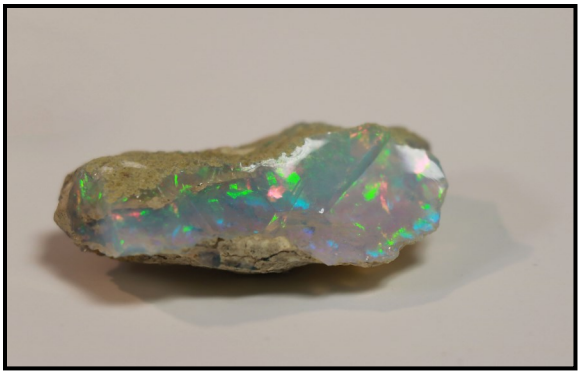


Figure 3: This rubbed Ethiopian opal demonstrates excellent color.

an irregular, but interesting, shape.

3. Please tell us about the similarities and differences of Ethiopian and Australian opals.

Ethiopian opals come from the high desert in Ethiopia. That's why they are so dry. They absorb water, which is demonstrated when you touch a raw opal. Wet your finger, touch a dry Ethiopian raw opal, and it will stick to your finger. They lose most of their color when they are cut, but once they dry naturally, their color returns. A benefit of Ethiopian opals is that they're newer to the market, so they are cheaper than Australian opals. However, the price has risen a lot, so it will most likely eventually match the price of Australian opals.

Australian opals love water. In fact, they need water in order not to craze or fall apart. That's why if you store Australian opals in a box where there's zero percent humidity. Put them in a sealed plastic bag—ideally double-sealed—with some cotton moistened with a few drops of water. If you do this, it will help prevent crazing, which causes the opal just to fall apart. Often, Australian opals are sold inside of a water-filled container. This can hide crazing. In order to determine if these opals are crazed or not, remove them from the water and let them air dry. Then, examine them for crazing. However, don't expose them to significant heat to dry them, since that can cause the opal to break.

When you cut Australian opals, look for a bar of color in it. That's the part you want to keep. Sometimes, this color bar is really thin, which is one reason why opals are so challenging to cut. Australians have a nice play of color.

4. How many different kinds of opals are there? What is your favorite?

There are many, many kinds of opals! A few are common opal, concrete, boulder, Mexican fire, Mintabie, Cooper Pedy, honey, and koroit opal. Common opal has no play of color and isn't typically worth that much money. On the other hand, Mintabie opal, which forms in the cracks of rocks called seams, is more expensive. Concrete opal, also known as fairy opal, is treated to bring out the play of color with a method called "cooking."

Opals aren't just found in Ethiopia and Australia; they are also mined in Louisiana and the western United States. The kind of opal from Louisiana looks much like the Australian concrete opal.

My favorite opal, however, is black opal. A black opal with lots of nice color can cost $10,000!

5. What are some characteristics of an outstanding opal?

An opal is judged on the number of different characteristics, including how big it is, what color or colors it is, how saturated the colors are, and how much color it has. Interestingly enough, the play of color in the opals makes some more valuable than others. Red, orange, yellow, blue and green are the colors in order of decreasing value. Red and blue are typically the most desirable colors. However, if a stone contains all of the colors, that also increases its value.

6. What process do you follow when you cut opals for jewelry?

I either free-form carve my opals, or I make them into rounded oval shapes called cabochons. When I free-form the opals, I simply carve out the matrix and polish the resulting opal. Cutting any rock or mineral also requires safety equipment, such as eye protection.

Figure 4: One of Mrs. Bair-Saltzgaber's Australian opal necklaces.

However, when I cab opals, I use my Pixie machine with already worn wheels. I'm careful to use lots of water, which helps the opal stay cool. I also have to be very careful not to scratch the opals. That's why I have to keep my polishing powder and wheels separate and covered. One piece of dust on a fine-grit wheel can scratch the opal.

When an opal's color bar is very thin—like less than a millimeter thick—it is too thin to make into a cabochon. This doesn't mean that it is worthless, however; it just requires some extra work. After cutting and polishing the opal into an oval shape, I attach a piece of ironstone to the back to make it thicker. Then, it's called a doublet and is worth significantly less than whole opals.

Also, when carving Ethiopian opals, make sure that the opals are stable. If there is a crack, the opal will separate at that juncture. Sometimes, one can peer into the Ethiopian opal with a small LED flashlight to see if there are any cracks and where to avoid them, or where to split the opal to save as much as possible. Fortunately, most of the opals I have cut have been fairly stable.

7. Where do you purchase your opals for cutting?

I've bought most of my opals from gem and mineral shows. In addition, I've purchased opals straight from Australia and from eBay. If you are buying opals online, make sure that the vendor is dependable and honest and that you're actually getting what's shown in the photo.

In order to see if an Australian opal has any good coloring in it, it is usually rubbed. This process removes the matrix, also called potch, to expose the color bar. I've bought a lot of rubbed opals in the past, but now I'm getting more interested in the rough, unrubbed specimens.

8. How does one care for an opal once it is cut?

Use a soft, clean cloth to clean the opals. Remember that Australian opals like to be worn touching the skin. They like the humidity there, and can crack if they are exposed to drastic temperature changes without a time adjustment.

Figure 5: Another of Mrs. Bair-Saltzgaber's necklaces. This one is a carved Ethiopian opal.

9. What are some unique or interesting qualities of opals?

I've learned that the play of color in opals is due to little tubes that diffract the light entering the specimen. This acts just like tiny little prisms, splitting the white light into its various colors. This diffraction of light is also responsible for the bright colors on the back of a CD or DVD.

In addition, opals are very soft—only a 5-6.5 on Moh's scale. That is why they scratch so easily!

Photo Credits: Emma Fajcz

Mini Miners Monthly

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Vol. 9 No. 9 September 2015

Women, Girls & Mineral Collecting

When I was a little Mini Miner, my mother taught me that women and girls can be anything they want to be. They can be teachers and scientists and musicians and carpenters. They can collect dolls if they want to. And they can collect minerals if they want to.

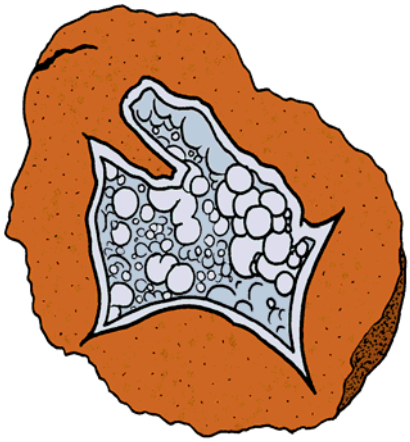
There was a time when mineral collecting was a hobby for the men and boys, and the ladies came along with them. Today, however, women are very involved, and very important, in mineral collecting. So, this issue of *Mini Miners Monthly* is dedicated to the women and girls who collect minerals.

This is a different *Mini Miners Monthly* than we have ever done before. It is devoted to the women and girls in the world of mineral collecting. In this issue you will meet one of the best-known mineral collector today, Mrs. Gail Spann. She is pictured here with her husband, Jim. Together they have a very fine mineral collection. You will also meet Dr. Sally Zeller, a professional geologist and university professor. Mineral artist and businesswoman, Brandy Naugle, shares her talents with us. We will also tell you about a very important organization for women called *Women in Mining* (WIM, for short). There are also many minerals named after women. You will find a fun project here to challenge you to discover who some of these women are.

Of course, you will also meet some young lady mineral collectors. I also received a special nomination for a mineral club leader who has worked with and inspired many, many generations of young mineral collectors. Her name is Mitty Scarpato.

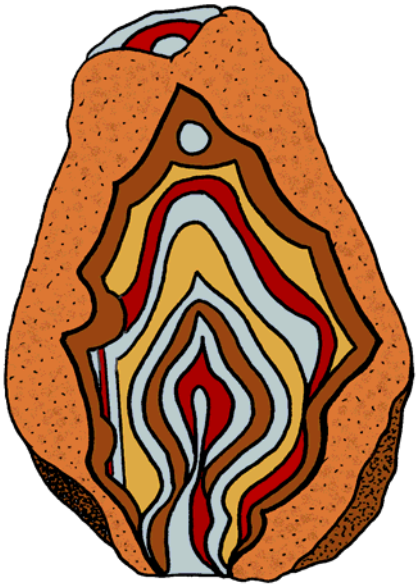
It is our hope that the young lady Mini Miners out there will be inspired to dream of becoming geologists, mineralogists, mineral dealers, mining engineers, mineral dealers, gemologists, jewelers or any occupation that is related to minerals and mineralogy.

Above: Gail Spann and her husband, Jim. Right: Dr. Sally Zeller with her penguin friends on Seal Island, Antarctic Peninsula.



Introducing Emma Fajcz

Emma, the author of the article you just read, was asked to send a biography about herself.



"I am an eleven year old home schooled, high school student who has the privilege of being the oldest of three girls. Despite the fact that I've always been fascinated in rocks and minerals, my collection hasn't really flourished until this past summer. I love collecting rocks and minerals because the of their beauty and their vast diversity. My two favorite specimens from my collection are Spirit Quartz and Malachite. This fall, I became a member of two geology clubs in Brunswick, Georgia which I find very inspiring. Even though I would like to be a Geologist when I grow up, I also adore the creative arts of literature, dance, and the visual arts.

I am very honored for Diamond Dan to publish my article in 'Mini Miners Monthly.' I've enjoyed reading this wonderful magazine, and it's exciting for me to be able contribute to it."

Here is a picture of Emma with her mineral collection.

Emma, we are honored - and impressed - by your intelligence and writing abilities. We are thrilled you love minerals and art, too.

This article was first presented when Emma was very young. Today she is a high-school graduate and is making plans for her education and her future.

Gail Patricia Spann

Gail Patricia Spann and her husband, Jim, live in Rockwall, Texas. For many years she owned and operated a fine art and framing shop. She is a very, *very* busy lady. Gail is active in bicycling and is the Texas ambassador for the League of American Bicyclists. She is also a very serious and accomplished mineral collector. Gail travels all over the United States to participate in cycling and mineral events. She often gives talks and is always ready to visit with people and talk about the things she loves in life. Her picture here is a great one of Gail: she is *always* smiling. One of her sayings is, "Life, by the way, is really fun." Gail enjoys every minute of it. Below are a number of mineral specimens from the Spann's collection. From left to right wulfenite, aquamarine, tourmaline, Pyromorphite and kunzite.

We asked Gail some questions about mineral collecting. Here are her thoughts.

In what ways to do you see girls and women changing the mineral collecting hobby?

Women are social and entertain in a different way than men do. I know that we often show our collection and I clean house, buy the groceries, cook the meals and decorate the house in preparation. I like to be sure guests are made to feel welcome and then go about looking at our minerals with them. When other women come, I let the other ladies know that they are welcome and we get to know each other before moving on to minerals. The men, in general, are right off to the cabinets where they challenge each other to "guess what this is". Also, women travel in groups and so you seldom see women alone when they shop for minerals. Women shop in groups.

Would you encourage young women to pursue a career in the mineral collecting hobby?

Young women should pursue any field that interests them. If a young lady desires to be a mineral dealer or work in the field of mining, she should follow her dreams.

How are women mineral collectors unique from men collectors?

Women are more into the look, beauty and color of minerals. For example, women are drawn, so often, to those minerals that have colorful crystals and a slight sparkly affect. Women display their minerals better also, incorporating them into the decor of the house and less into keeping them in flats under beds. When it comes to purchasing minerals, women will take longer to shop for a bargain and will wait till the "one that calls their name" is available. We enjoy seeing shapes in our minerals and often communicate that when showing minerals to other women. I have names for the minerals pictured here.





I call the wulfenite a piece of butterscotch. To me, the aquamarine looks like an airplane propeller so I call it "the propeller aquamarine." What does the tourmaline look like? The Space Shuttle, so it is "the Space Shuttle Tourmaline."

What wisdom would you offer young women and girls to help them find success and satisfaction in mineral collecting?
Find other women in local rockhound clubs and learn from those that actually do dig. Buy mineral publications and read them. Go to shows with others to see pricing, availability and comparison. Go to Museums, meet the people who work there, ask questions. They really don't mind! Buy minerals on auctions that have low starting prices, see what you can find that appeals to you and start collecting a few pieces as reference. If you really do like it, collect it. I have found that collecting is a constant evolving thing, you move on to other minerals while still loving those you first collected.

What is the most rewarding and satisfying aspect of mineral collecting for you personally?
The fact that I have a wonderful husband who also collects and goes to shows alongside me. It makes for a fun relationship when we both enjoy all the same aspects of our hobby. We love to be social so that is a satisfying portion of collecting as well. We have crawled into mines together and love that we are there as a couple. I owned an art gallery for most of my life and now that I am retired from that world, it is a pleasure to shift into the fabulous world of rocks and minerals, even the black and white ones are beautiful to us.

Is there anything special you would like to say from your heart for the young women and girls who are interested in minerals and mineral collecting?
Don't let anyone deter you from collecting. Many women have, and do, collect. Never be ashamed of liking any mineral or for never going in the field to dig. Collectors come in all ways to this wonderful hobby. Some dig and find their own, others purchase at shows and some on the web. There is no right or wrong way to collect. It is a pure joy to learn about the history of minerals and who owned them before us, but it is also a joy to sit and just look at the beauty of each and every one. We all started somewhere and we all learned as we went. It is about enjoying our beloved hobby.

Thank you very much, Gail, for your thoughtful and beautiful answers. You are an inspiration!

Mineral People & Mineral Careers

Hopefully you are not tired of word searches yet. In this word search puzzle you will find the names of people and jobs that are related to minerals and mineral collecting. Would one of these careers be right for you?

M	I	N	E	R	A	L	O	G	I	S	T	O	P	A
A	I	A	A	R	O	N	J	E	W	E	L	E	R	Q
R	I	N	C	C	H	E	A	T	H	E	R	T	O	L
I	P	X	E	U	H	A	N	N	A	H	I	E	F	I
E	U	B	N	R	T	Y	L	L	A	S	M	E	E	F
H	B	W	G	I	A	V	M	I	T	T	Y	A	S	T
U	L	M	I	E	J	L	W	E	S	L	E	Y	S	S
I	I	I	N	M	O	E	D	I	T	O	R	A	O	I
Z	S	K	E	M	I	L	Y	E	D	F	G	U	R	G
I	H	E	E	V	N	N	E	V	A	E	H	T	B	O
N	E	B	R	A	N	D	Y	H	I	L	I	H	O	L
G	R	C	O	L	L	E	C	T	O	R	E	O	K	O
L	Y	N	N	V	A	R	O	N	W	H	Y	R	W	M
S	C	I	N	E	Z	S	K	E	L	L	I	P	U	E
M	I	N	E	R	V	T	S	I	G	O	L	O	E	G

The following mineral careers and people are in this word search puzzle. They are also found in this issue of Mini Miners Monthly. They can be left to right, right to left, up, down or diagonal.

mineralogist, miner, engineer, gemologist, author, geologist, artist, mineral dealer, jeweler, editor, publisher, WIM, professor, Marie Huizing, Lynn Varon, Sally, Curie, Heaven, Brandy, Emily, Heather, Mitty, Szenics, Kelli, Collector

Marie Huizing ~ Managing Editor, Rocks & Minerals Magazine

Lynn Varon ~ Managing Editor, Rock & Gem magazine

Kelli Marcou ~ Jeweler, Gemologist, Business Owner

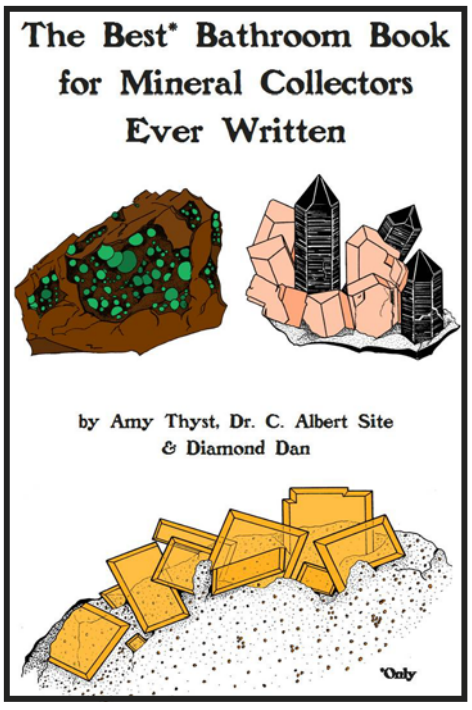
Women in Mining

Women in Mining (WIM for short) was founded in 1972 in Denver, Colorado, by several women who wanted to know more about the mining industry. Today, the most important goal of WIM is to educate both the members and the public about the mining industries. You might be surprised to learn that women *and men* can join this organization. Education about minerals is what WIM does all across the country. They work to educate students, teachers and the public about how important minerals are in our daily lives. In fact, their favorite saying is, "If it isn't *GROWN*, it has to be *MINED*!" They also create and pass out educational materials about minerals.

The WIM Chapters around the country do workshops, set up tables and booths at rock and mineral shows, and show many different items that we use in our lives every day that are made out of materials that come from minerals. This is what they say on their website: "An important part of each workshop is to bring the minerals industry to attendee's everyday life by showing the many products made from each mineral and/or rock provided. A simple way is to put out a variety of products, such as gum, aspirin, roofing shingles, Tums, crayons, paper, etc., out and have the group match these to the mineral/rock samples provided. Most people are amazed how much mining impacts their daily lives."

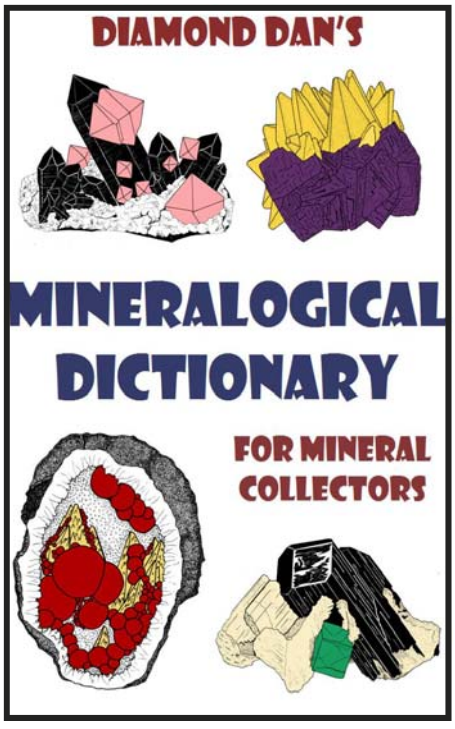
Check out Women In Mining on their website. Who knows? Maybe YOU will be a mining engineer, mining geologist or mine manager when you grow up!

www.womeninmining.org



Diamond Dan Publications continues to offer high-quality, fun, educational materials for young mineral collectors. Please visit our website to see all that is available!

www.diamonddanpublications.net



Dr. Sally Zellers

Dr. Zellers and Diamond Dan went to college together. We studied minerals and fossils and geological sciences. After graduation we lost track of each other. But, thanks to Facebook, we found each other again - 25 years after graduation!

Dr. Zellers, please tell us about yourself.

I attended elementary through high school in Ridgefield, Connecticut, but prior to the age of seven, I lived with my family in Colombia, Peru, California, Missouri, New York and New Jersey. I went to college at the University of Rochester, attended school in Alaska, and completed graduate school at The University of Texas.

For my work, I study foraminifera, which are tiny fossils that occur in the mud on the seafloor. These fossils are smaller than the period at the end of this sentence. Foraminifera can help geoscientists determine the geologic history of an area and can be used to determine the age of sediment and rocks. As a geologist for Texaco, I used to study these fossils in order to search for oil and gas in places such as Nigeria and China.

Now I am a professor at the University of Central Missouri where I teach courses in geology and meteorology. I also advise students who want to become earth science teachers. I teach college students about minerals, rocks, and maps. My school has a small, but nice mineral collection, much of which came from mines in southeast Missouri.

When you were in school, did someone special introduce you to geology and inspire you to become a geologist? *All my teachers were great and I think I was inspired by all of them. It was not a teacher, but my mother, who first encourage me to study college geology. She reminded me how much I had enjoyed ninth grade Earth Science. I took the class and, of course, I was hooked for life.*

What is the most exciting experience you have had as a geologist? *The most exciting was my first voyage to Antarctica. I joined a group of geoscientists studying the sea floor near the Antarctic Peninsula. I was in charge of taking sediment samples of the seafloor. While in Antarctica, I hiked on a glacier and saw many leopard seals, elephant seals, and many birds, including penguins. Here is a picture of me with my penguins.*

As a teacher and a professional geologist, what advice would you offer girls and young ladies who are interested in minerals, mineralogy and geology in general? *I think it is great when anyone is interested in minerals. Keep up your interest by continuing to collect, trade, attend gem and mineral shows, and read about minerals and their formation. Museums, various websites, and this newsletter are great places to learn more about minerals. If you want a career related to minerals, mining, and geology, take as many science and math classes that you can in High School. Also, be curious and ask a lot of questions. The most successful geologists I have known are people who ask a lot of questions and who love to learn. As you can see, I have had a fun career as a geologist, which has taken me across the world. I hope that your love a minerals will also take you on many adventures in your life.*

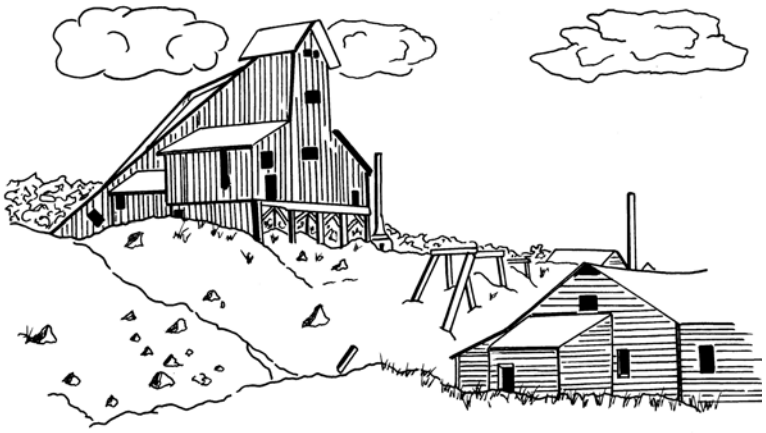
something for you to do...

Let's Play "Stop!"

This is a modified version of a child's game a young Mexican girl remembers from her childhood. All you will need is a pencil, paper, a watch with a second hand (or a stop watch) and a mineral handbook.

Here's how to play STOP!

Gather a bunch of your mineral collecting friends. One player recites the alphabet starting at A (A, B, C, D, …). A second player shouts "STOP!" The player reciting the alphabet stops on the letter she just spoke. A third player, the time keeper, says "GO!" and everyone has to write as many mineral names as possible that start with the letter the first player ended on. The time keeper will give all the players only one minute to write as many mineral names as possible with that letter. The player with the most names wins that round. Be sure to have a good mineral handbook with you. Your players may get creative and start making up real-sounding mineral names. You may want to check their answers!



Create a mineral puzzle

You will need a mineral picture, a piece of cardboard, white glue and scissors. Select a large, colorful mineral picture. If you don't want to cut one out of a mineral magazine, draw one of your own and color it. (By the way, NEVER, NEVER, NEVER tear a picture out of a book!) Put a thin layer of white glue on the back side of the picture. Glue the page to the piece of cardboard. Put a pile of heavy books on the picture to hold it flat against the cardboard while the glue dries. Let it dry overnight. The next day, cut the picture into many random-sized pieces. You can make the pieces any shape you like. A more difficult puzzle will be one with a large number of smaller pieces. An easier puzzle will be one with a small number of large pieces. Challenge your mineral collecting friends, your parents and your siblings to put the puzzle back together. Time them. See who is the fastest.

Minerals Named After Women

Almost 100 minerals have been named after women. Some were mineral collectors. Others were scientists. Others were wives of scientists. Listed below are a number of minerals that were named after women.

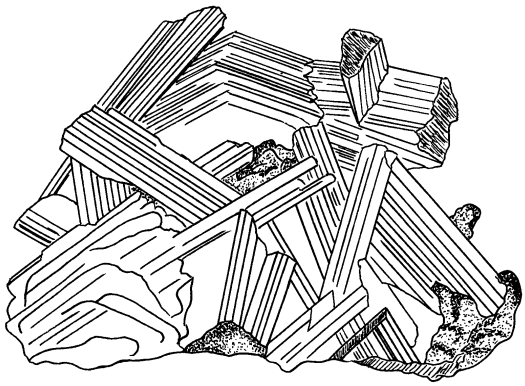
Use this website (http://www.webmineral.com/help/NameOrigin.shtml) and discover more about the women behind these mineral names. Match these names on the left with the accurate fact about the woman after whom the mineral was named on the right.

Rosemaryite	Russian Mineralogist
Lindbergite	The discoverer of the element radium
Sklodowskite	A distinguished mineral collector. Her husband was Eugene.
Caresite	Wife of Professor Peter Wyllie
Sophiite	A French chemist
Carnotite	A Russian volcanologist and mineralogist
Marialite	A United States Geological Survey Scientist
Mcnearite	A mineral collector and dealer from Sudbury, Mass.
Rondorfite	Her full name was Maria Rosa von Rath
Olgite	A mineralogist and crystallographer from Switzerland

Two minerals were named after Marie Curie-Sklodowska (1867-1934), sklodowskite and curite (named after Marie and her husband, Pierre). The mineral cuprosklodowskite was originally thought to be a copper-bearing version of sklodowskite and so its name bears Marie's name.
Pierre and Marie Curie discovered the element *radium*.

Left: A Polish stamp with a portrait of Marie Curie-Sklodowska

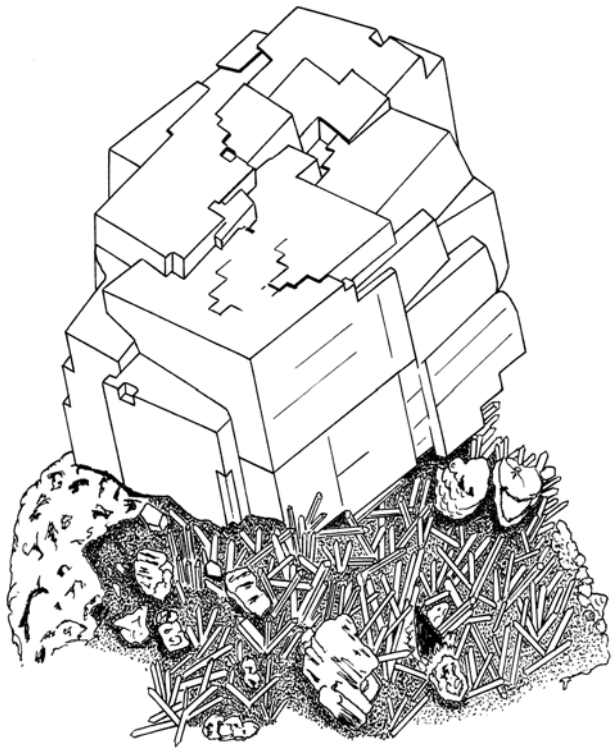
The deep green mineral called *szenicsite* was discovered in Chile by Terry and Marissa Szenics. This mineral named was officially approved in 1994. The Szenics are American mineral collectors and mineral dealers. Szenicsite contains the elements copper and molybdenum. Marissa Szenics was born in 1950.

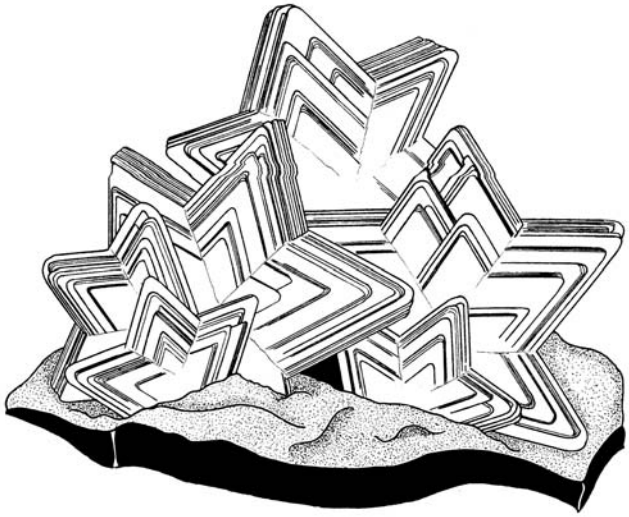


Right: A specimen of Szenicsite.

Mitty Scarpato, a Mentor to Young Mineral Collectors

A "mentor" is a person who works with and teaches someone to become better at something. Mitty Scarpato is a mentor to many, many children who are interested in minerals. Her friend, Dr. Karla Bouck, wrote to us and nominated Mitty as deserving of special recognition for all she has done for young mineral collectors and students. Dr. Bouck wrote this information about Mitty: *"I would like to nominate Mitty Scarpato for special recognition in the* Women, Girls and Mineral Collecting *issue. She was the Pebble Pup Leader of the Conejo Gem and Mineral Club for many years and handed a highly successful and organized program to my husband and I to run. She is currently our youth Education Group leader. She teaches about minerals, rocks and geology to our local schools that are woefully lacking in science education due to extreme budget cuts in the State of California. The kids and teachers love her visits to their schools. She did an outstanding job organizing our youth room and show program at our Pageant of Gems show. She is also our club Secretary. She is an avid collector and extremely helpful to all club members during field trips. She also makes very nice displays of her collections to share with others at various fairs and shows.* ***Mitty Scarpato is an inspiration to all the women in our club, both young and old.***





Specimens to Color
Left: Red Rhodochrosite
Above: Golden yellow muscovite

Introducing a Young Mineral Collector, Hannah P.

Hannah P. is 14 years old and is from New York State. She starts 8th grade this year. She has a lot of interests including writing and drawing, swimming, riding her bike and collecting minerals.

Hannah's dad is a mineral collector, too. Hannah has two older brothers, but they are not interested in minerals at all. Hannah, however, does collect minerals and likes to display them in her room. She has a lot of specimens that her dad gave to her. She also has one very special specimen of pyrite that was given to her by Mr. Bob Jones. Mr. Jones is a well-known mineralogist and writer. He writes articles every month for *Rock & Gem* magazine. One August a couple years ago, Hannah visited the East Coast Gem & Mineral Show in Springfield, Massachusetts. While there she met Mr. Jones who surprised her by giving her this beautiful cluster of pyrite crystals. It turns out that pyrite is Hannah's favorite mineral! She has over 35 mineral specimens in her collection and hopes to collect more as she gets older.

I asked her, "Hannah, what do you like best about minerals?" She told me, "It's fun to learn about them." "Have you ever gone to a rock shop to learn and maybe buy some minerals?" Hannah said, "I went to rock shops in South Dakota this summer when I visited my Uncle Dana."

Here is a picture of Hannah holding her special pyrite specimen. There is also a picture of her agate geodes and of one of her shelves of specimens. You can see that Hannah also likes to collect some seashells, too.

Thank you, Hannah, for sharing your collection and your thoughts with us.

Update: Hannah is now 19 years old and attends the University of Rochester in Rochester, New York.

Mineral Artist Brandy Naugle

Brandy Naugle was born November 2, 1978. She was raised in Waynesboro Pennsylvania, and grew up with a strong interest in both art and rocks. Starting from the age of 6, Brandy and her father attended the Annual Chambersberg Mineral show. Under the influence of her Grandmother and parents (who are both artists themselves), Brandy developed a natural talent for art and artisan works. Combining art projects at home and at school, she went on to win numerous awards during her public school years.

In 2002, a few years after graduation, Brandy and her husband, Justin Zzyzx, began a mineral sales company and moved from the east coast to Los Angeles, California. While working on some projects, Justin requested a painting of a mineral specimen, in the tradition of old mineral paintings from historic mineral textbooks. After completing the first, an Amazonite from Teller County, Colorado, she took to a Benitoite crystal from San Benito, California and an Elbaite crystal from the Himalaya Mine, California. Once offered to their mineral customers, these works were purchased right away and she received more and more requests for her paintings. Brandy just kept painting, turning out beautiful portraits of Epidote and Prehnite, Aquamarine, Huebnerite, Sulphohalite, Kyanite and many others. In fact, over twenty five paintings we sold before she began having them professionally photographed and cataloged on her website, BrandyNaugle.com. Spending most days doing graphic design and website coding left little time for paintings. However, during that time she has designed advertising for most major mineral dealers for the website The-Vug.com and the companion magazine of which she serves as Art Director.

Below and on the back page of this issue are some of Brandy's paintings. She is very talented, and very busy. If you go to any of the larger mineral shows, you will eventually meet Brandy.