

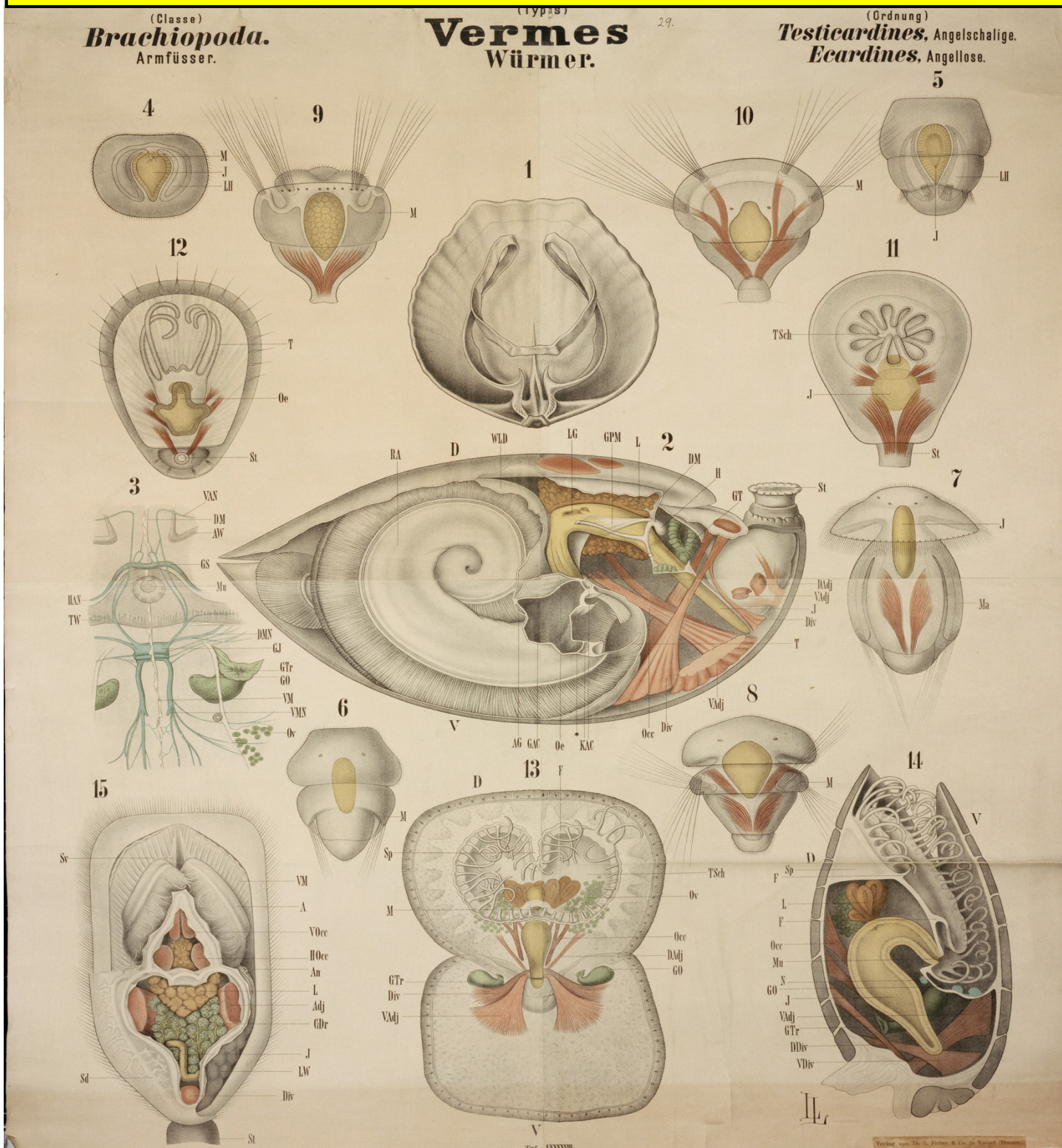
DAISY MOUNTAIN ROCKCHIPS

The purpose of Daisy Mountain Rock & Mineral Club is to promote and further an interest in geology, mineralogy, and lapidary arts, through education, field experiences, public service, and friendship.

VOLUME 5, ISSUE 5

MAY 2020

MEETINGS AND FIELD TRIPS CANCELLED UNTIL FURTHER NOTICE DUE TO COVID-19 CONCERNS



Leuckart Chart, Series I, Chart 98: Vermes; Brachiopoda; Ecardines + Testicardines; Waldheimia australis etc Leuckart, Karl Georg Friedrich Rudolf (1822-1898); Looss, Arthur (1861-1923) (Theodor Fischer, 2011-11-30)

Image CC BY-NC

FOSSILS: PART VII

Kingdom: Animalia
Phylum: Brachiopoda
By Susan Celestian

The name "brachiopod" is derived from the Latin *braccium* (arm) and *poda* (foot), in reference to the "foot" or pedicle with which they may attach to their substrate, and the "arms" or structures with which they extract food from water (structures that in no way resemble arms).

Brachiopoda (aka lamp shells) are bi-valved organisms -- i.e. they have two shells (*valves*) that encase their soft parts. The valves are hinged along one edge. The phylum Brachiopoda is divided into two classes:

- Class: Articulata - hinges are toothed (or articulated); calcite/aragonite shells
- Class: Inarticulata - hinges are not toothed; often chitinous or chitin-phosphatic shells

Prior to the great Permian extinction event, brachiopods were quite abundant. Over 30,000 fossil species have been identified. Today, only about 385 species exist.¹

Brachiopod characteristics are as follows:

- ▶ Their geologic record ranges from Lower Cambrian to Recent -- 550-600+ million years.
- ▶ They are exclusively marine. Paleozoic species were extremely abundant in shallow, warm seas; while most of the few modern species have 'retreated' to deep or cold/polar water, where they escape the more aggressive competition of the bivalves (clams, scallops, oysters...). (Brachiopod metabolic rates are 1/3 to 1/10 that of bivalves.)²
- ▶ The body plan is complex, with tissues, muscles, organs, digestive system, circulatory system (2 hearts), and nervous system.
- ▶ As mentioned above, there are two valves (shells). They are asymmetrical, in the sense that one shell is generally larger than

¹<https://ocean.si.edu/ocean-life/invertebrates/modern-day-brachiopod> Note that these numbers can vary quite a bit depending on the source.

²<https://en.wikipedia.org/wiki/Brachiopod>

Brachiopoda continued on page 7....



JADEITE

By Susan Celestian

Taking its name from the gem name, *Jade*¹, Jadeite is a pyroxene (a group of minerals). Emerald Green Jadeite is referred to as Imperial Jade, due to its vibrancy and translucency. Associated with serpentinite, it forms in subduction zones, where it forms by high pressure/low temperature metamorphism of albite (a feldspar).

Chemical Formula - Na(Al,Fe³⁺)Si₂O₆ (Sodium, Aluminum, Iron) Silicate

Crystal System - Monoclinic (3 of unequal length, two at 90° from each other and one not 90°).

Go to <https://www.mindat.org/min-2062.html>, and scroll down to an interactive graphic of crystalline jadeite.

Growth Forms/Habits - Massive, fibrous, rarely crystalline

Hardness - 6

Color - Apple-green, emerald green, greenish white, white with green spots, white, purplish-blue, blue-green, violet, lavender, red, black

Luster - Vitreous to waxy/greasy

Streak - White

Specific Gravity - 3.25-3.35

Cleavage - Good, but seldom seen

Fracture - Splintery to uneven

Other - Jadeite can be very tough -- tougher than steel; fluorescence: generally unreactive to SW, some varieties weakly reactive in LW

¹Jade is a term that includes jadeite and nephrite. Nephrite ($\text{Ca}_2(\text{Mg, Fe})_5\text{Si}_8\text{O}_{22}(\text{OH})_2$), or mutton-fat jade, is a variety of actinolite, an amphibole. It is more abundant than jadeite, but exhibits fewer colors (primarily grays, greens, plus yellow, brown and white).

Jadeite continued on page 13....

INSIDE THIS ISSUE

Fossils: Part VII Kingdom Animalia, Phylum Brachiopoda	2, 7-12
Jadeite	2, 13
Minutes (Board, General, & Show Meetings)	3
Field Trip Report:	4-6
Words of Wisdom from Bob Evans	14
Club Information, Field Trip Schedule	14
Announcements (inc. Wire Wrapping)	15
Show list & posters	16-17

**April, 2020
General Meeting Minutes**

No meetings until further notice.

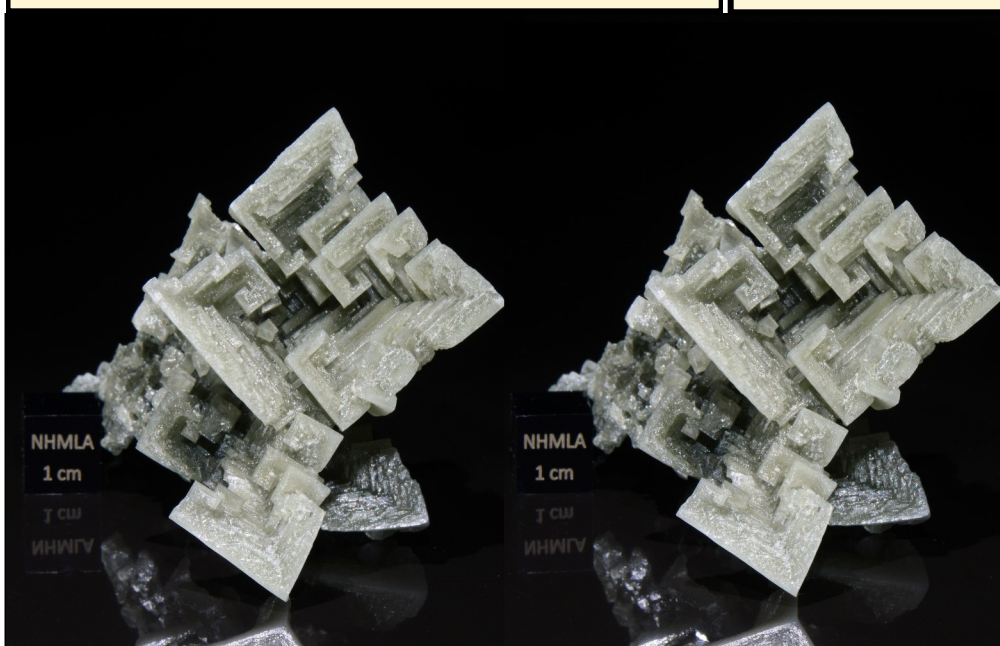
**April 28, 2020
Board of Trustees Meeting Minutes**

Zoom Board Member Meeting -- In attendance: Bob E., Claudia M., Cynthia B., Deanne G., Don R., Ed W., Howard R., Rebecca S., Stan C., Sue C., and Tiffany P. (through Zoom video chat).

- May general meeting cancelled
 - Voting was unanimous
 - Hopefully, we will be able to resume in June
- Cynthia B. discussed financials
 - Statements are available on GroupWorks or email
- Claudia M. discussed the scholarships received
 - 2 applicants, both were great candidates
 - 1) Female, going to Glendale C.C. in Soil Science
 - 2) Male, going to NAU in Anthropology/ Archaeology
 - Vote for candidate to receive \$1,500 scholarship sent directly to institution
 - ◇ Candidate 1 – 6 votes, Candidate 2 – 5 votes
 - * Candidate 1 won

- ▶ **Thank you so much, Claudia M.**, for all your hard work involving the scholarship!
- Field trips were updated
 - Too hot for anymore field trips in town
 - Club sanctioned field trips cancelled for May
 - ◇ Voting was unanimous
 - Locations for the summer were discussed
 - ◇ 1) Luna, NM
 - * Would be an overnight camping trip
 - * Would be in June or July
 - ◇ 2) Holbrook, AZ
 - * Good possible location
 - ◇ 3) Topaz Mountains in Utah
 - ◇ Was scheduled for May, might be rescheduled for the Fall
 - ◇ 4) California trip
 - * Will be cancelled either due to covid-19 or earthquakes in that area
 - ◇ 5) Payson – will be too hot
 - ◇ 6) Flagstaff – will be too hot
 - A show for the fall was discussed
 - Early December is a good target date
 - Ed W. will contact schools for availability
 - ◇ Once done, hopefully we can move forward with creating a show for 2020
- ▶ **Thank you, Deanne G.**, for doing the 2019 financial audit for the club!

Respectfully submitted, Rebecca Slosarik



This is a stereo-pair of halite (table salt) from Sieroszowice Mine, Lubin-Głogów Copper District, Poland. It is from the collection of the Natural History Museum of Los Angeles, Gem and Mineral Hall. The mineral curator there is studying salt for signs of life that may be used to look for life on Mars. He regularly posts interesting bits on Instagram -- you should Follow him (nhmla_gems)!

NOW -- cross your eyes and practice viewing a 3-D photo.

Photo by Stan Celestian

FIELD TRIP REPORT

Mingus Mountain

May 20, 2020



THE TARGET: BIF or Banded Iron Formation -- in this case the Precambrian (about 1.8 billion years old) Pike's Peak Iron Formation, on Mingus Mountain. The rocks for which we hunted are composed of sharply defined, and alternating, layers of black hematite and bright red hematite-rich chert. The source of the silica and iron was probably submarine volcanism (or upwelling from deep water). The rocks very likely were deposited in a shallow water, intertidal environment, where bacteria facilitated the precipitation of the iron. And as stromatolites (remember cyanobacteria?) produced oxygen, iron was oxidized to produce the red layers (the black layers represent low-oxygen periods). *Photo by Stan Celestian*



A beautiful, cool day in the woods. Can you detect the vanilla scent of the Ponderosa Pines?

Eyes on the ground!



"There's a good one right there, Michael. A little to the left"

Mingus continued on page 5...

...Mingus continued from page 4



Our buckets are full -- BIF is HEAVY!



Roadcut 1

A couple roadcuts on Mingus Mountain expose ash and coarse pyroclastic debris (ash, lapilli, cinders, bombs) deposits beneath basalt flows, from volcanic activity, the Hickey Basalts, probably occurring about 12.9 mya.¹

Look closely at the volcanic bomb in ash, right. That was a hot blob of lava that fell with the ash. Since it was hot, it flattened out on impact. Enlarge the page and notice that the interior of the bomb is very vesicular ("hole-y"). This occurred as the lava frothed as gases were released from the lava. The outer edges are dense and fine-grained, as they cooled quickly. Photos by Susan Celestian

¹ <http://repository.azgs.az.gov/sites/default/files/dlio/files/nid1095/cm-93-e-report.pdf>



An small reverse fault in an ash bed (fault outlined in inset above)



Bomb in Ash



Roadcut 2

Mingus continued on page 6....

...Mingus continued from page 5

MORE THAN BIF ON MINGUS MOUNTAIN



Easter Daisy (*Townsendia exscapa*)



Lobeleaf Groundsel (*Packera multilobata*)



Silvery Lupine (*Lupinus argenteus*)



New Mexico Locust (*Robinia neomexicana*)



Balkan Toadflax (*Linaria dalmatica*)



Whitedaisy Tidytops (*Layia glandulosa*)



Showy Phlox (*Phlox speciosa*)



Doubting or Arizona Mariposa Lily (*Calochortus ambiguus*)



Yellow Salsify (*Tragopogon dubius*)



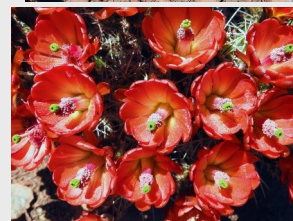
Western Blue Flag (*Iris missouriensis*)



Fleabane



Claret Cup Cactus (*Echinocereus triglochidiatus*)



THE PIÈCE DE RÉSISTANCE

...Brachiopoda continued from page 2

the other, and the shape may differ. However, they tend to be bilaterally symmetrical, when "cut" in half through both shells, and from the front or back. See Figure 1.

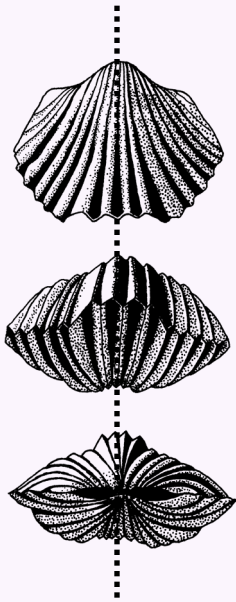


FIGURE 1 BRACHIOPOD VALVE SYMMETRY This diagram illustrates how brachiopod valves are different from each other, but bilaterally symmetrical when each one is 'cut' in half. Illustration by Susan Celestian

- ▶ Most brachiopod species are attached -- at least during part of their life cycle -- to the substrate, whether it is a rock, a shell, the sand, or other material. The attachment is via a fleshy stalk or *pedicle*. See Figure 2.

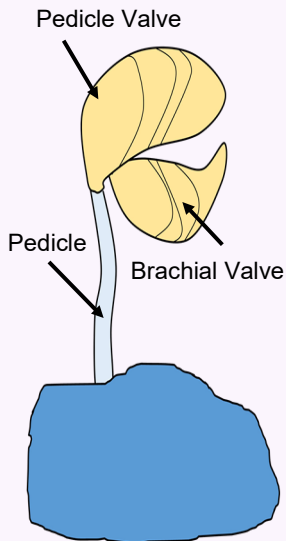


FIGURE 2 BRACHIOPOD PEDICLE Brachiopods are attached to a substrate by a muscular stalk, called a pedicle. The pedicle can often be contracted to pull the brachiopod more lightly against the substrate, or even into a shelter/burrow. It can also change the orientation of the organism, so to take optimum advantage of ocean currents, that bring food. Illustration by Susan Celestian

- ▶ The larger of the valves is the one out of which the pedicle projects, and is called the *pedicle valve*. The pedicle extends out through an opening. The opening can be round (*foramen*) or triangular (*delthyrium*).

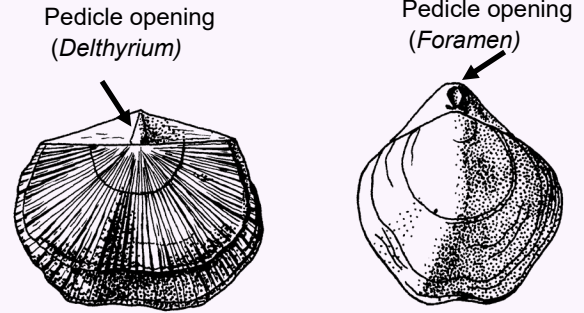


FIGURE 3 BRACHIOPOD PEDICLE OPENINGS These two brachiopods have distinctly different pedicle openings. ON THE LEFT is *Derbyia crassa*, with a triangular opening, called a *delthyrium*. Actually, in this species, the shell has overgrown the opening, indicating that when younger the brachiopod had a pedicle, and later in life, the pedicle atrophied, leaving the brachiopod to rest freely on the ocean floor. ON THE RIGHT is *Composita subtilita*, with a round opening, called a *foramen*. It is this type of brachiopod that gives the phylum its nickname "Lamp Shells", due to its resemblance to ancient oil lamps. Both brachiopods are from Arizona's Pennsylvanian-age Naco Formation. Illustrations by Susan Celestian

- ▶ They are filter feeders. The feeding mechanism is called a *lophophore*. Ciliated tentacles are usually looped or coiled, to increase the ability to glean organic debris out of the water flowing over the lophophore, when the valves open. The cilia (fine hairs) create currents that direct food toward the mouth. Sometimes there is a bony structure, called a *brachidium*, that supports the lophophore. See Figures 4 & 5. Additionally, you can see photos of modern brachiopod lophophores at: [Blogspot](#) and [Flickr](#).

FIGURE 4 LOPHOPHORES IN BRACHIOPODS



Being soft, lophophores are not preserved in the fossil record. However, brachidia (structures that support lophophores) sometimes are preserved. Photo by Stan Celestian

...Brachiopoda continued from page 7



FIGURE 5 LOPHOPHORES IN BRACHIOPODS

This brachiopod reveals a different style of brachidia (and hence lophophore).

Photo by Stan Celestian

- ▶ Brachiopods open their shells by contracting their muscles. When muscles relax, the valves close.
- ▶ Reproduction: While generally brachiopods have separate sexes, most release both sperm and eggs into the water, where fertilization takes place, and then larvae are on their own. In a few, females harbor embryos until hatched. Inarticulate brachiopod larvae are mini-adults, and can remain among plankton for months, until they settle on the ocean floor. Articulate larvae have no shell or major organs, and are planktonic only for a 10-12 days. They then develop a pedicle, attach to something, and develop into shelled adults.
- ▶ Evidence indicates that brachiopods are not a favorite morsel among marine predators.
- ▶ Interesting fact: the smallest extant brachiopod is *Gwynia*, at about 1mm in diameter. It hunkers among pebbles in gravel -- a safe haven. How the heck did anyone even discover this one!?³
- ▶ Interesting fact: the largest extant brachiopod is nearly 4" across; however the largest known fossil is nearly 15" across.⁴

Images of some selected brachiopods follow, in Figures 6-26.

³<https://en.wikipedia.org/wiki/Brachiopod>

⁴<http://geokansas.ku.edu/brachiopods>



FIGURE 6 MODERN BRACHIOPOD

This modern brachiopod has a fairly thin shell, and is plain white. In the right-hand photo, you can see the delicate brachidia. About 1.5 inches long.

Photo by Stan Celestian



FIGURE 7 MODERN BRACHIOPOD This modern brachiopod (1.25" across) is much more robust than the one in Figure 6. The shell is thicker, the growth rings are more pronounced, and the pedicle foramen is much larger. Additionally, the orange color is rather spectacular -- a feature missing from the fossil record.

Photo by Stan Celestian

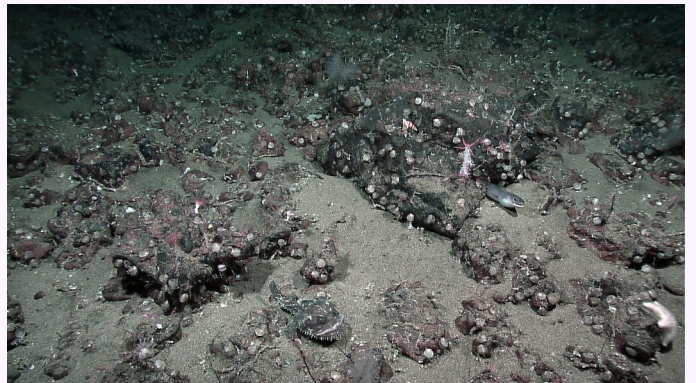


FIGURE 8 MODERN BRACHIOPODS clustered on Paramount Seamounts (Galapagos Rift) at over 1800', in July 2011. [Image courtesy of NOAA Office of Ocean Exploration and Research](#)

...Brachiopoda continued from page 8

ARTICULATE BRACHIOPODS

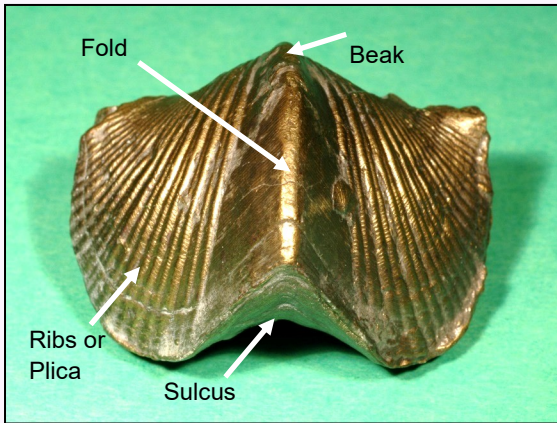


FIGURE 9 *Paraspirifer bownockeri* from the Middle Devonian Silica Shale, Lucas County, Ohio. This is a classic pyritized spiriferid. Some shell parts are labelled. 1.75 inches Photo by Stan Celestian



FIGURE 10 *Mucrospirifer thedfordensis* from near Thedford, Ontario, Canada. This brachiopod shares some physical similarities to that in Figure 9. but has obviously longer “wings”, making the hinge line about 2 inches across Photo by Stan Celestian

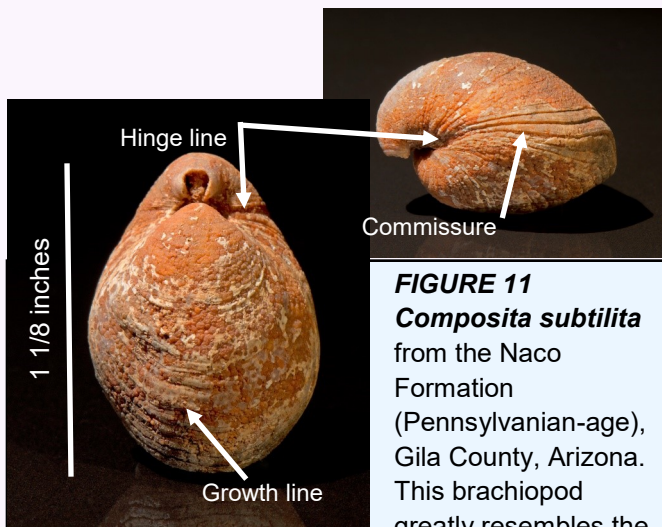


FIGURE 11 *Composita subtilita* from the Naco Formation (Pennsylvanian-age), Gila County, Arizona. This brachiopod greatly resembles the modern brachiopod in Figure 6. Its red color is due to it being replaced by Jasper. (The commissure is the line demarking where two shells come together.)

Photo by Stan Celestian

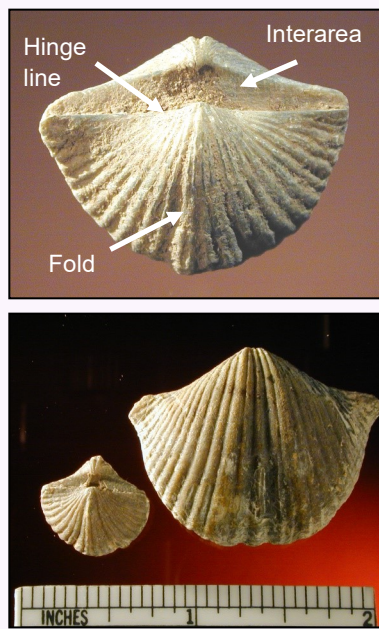


FIGURE 12 *Anthracospirifer occiduus* out of the Naco Formation, This brachiopod shares some physical similarities to those in Figures 9 and 10. To specify, the *interarea* is the flat triangular area along the hinge line. The delthyrium (covered by sediment) is within this area. Photo by Stan Celestian

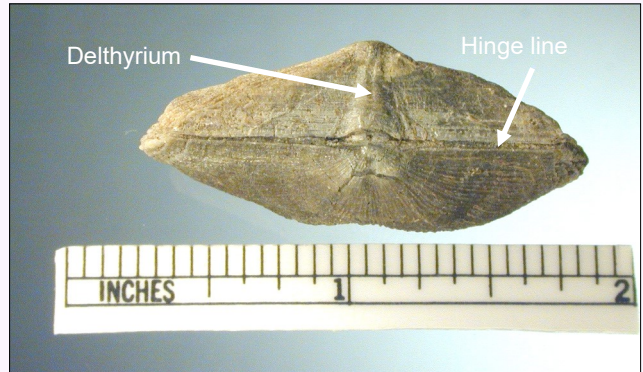
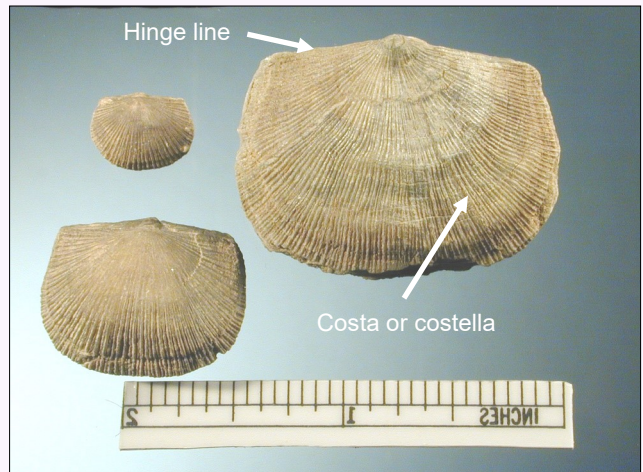


FIGURE 13 *Derbyia crassa* out of Arizona’s Naco Formation. The lower photo is a close-up view of the interarea. Note that the pedicle opening (*delthyrium*) is closed in adulthood. The shell is decorated with radial, hair-like “ribs”, called *costa* (plural = *costae*) or *costella* (plural = *costellae*). Photo by Stan Celestian

...Brachiopoda continued from page 9

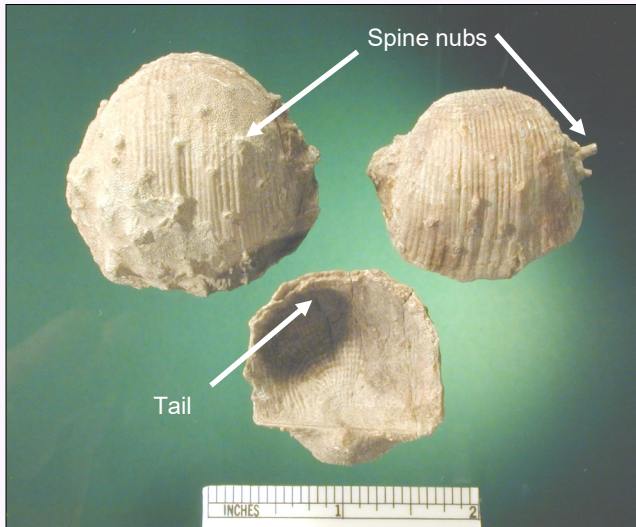


FIGURE 14 *Antiquatonia portlockiana* from Arizona's Naco Formation. This is a productid brachiopod. Productids are characterized by one concave and one convex shell, often with a very convex pedicle valve, and flatter brachial valve. Additionally many species have a "tail" -- an extension of the edge opposite the hingeline. Another characteristic is the presence of spines - either a few along an edge, or often long ones scattered about the pedicle valve. The 'tail', the convexity, and the spines probably facilitated a habit of "floating" in a soft substrate -- the boat-like shape and spines helped keep the brachiopod from sinking, and the 'tail' allowed the shell to open slightly (and remain above the substrate), so nutrient-laden water could enter and sweep past the lophophore.

In the upper photo, you can see the nubs of spines that have broken off. In the photo below, an *Antiquatonia* -- from a different site, and silicified -- has been etched out with acid. You can see how long the original spines were.

Photos by Stan Celestian

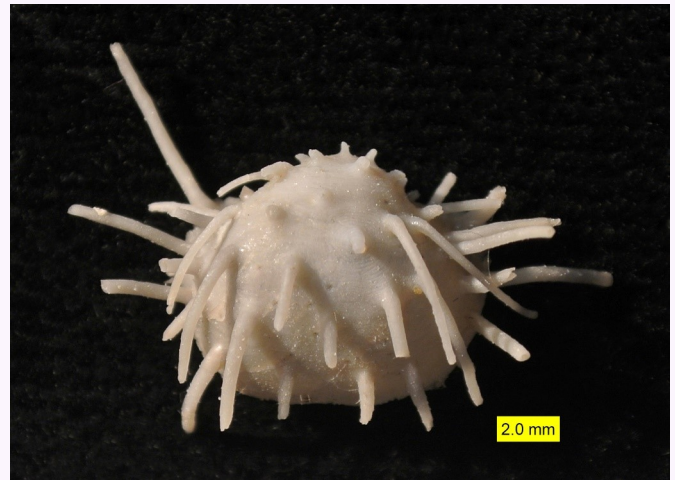


FIGURE 15 A *Productid Brachiopod* out of Permian rocks of the Glass Mountains, Texas. These brachiopods are silicified and can be etched out with acid. Careful handling allows the retrieval of specimens with much of their spines intact. Some species have many long, tangled spines. Author is Wilson44691, Creative Commons CC0 1.0 Universal Public Domain Dedication



FIGURE 16 *Echinaria semipunctata* from the Naco Formation of Arizona. This is another productid. Even though the shell has been somewhat crushed, you can still see that the pedicle valve (upper photo) was very convex. Look closely and you will see thread-like nubs of the many spines that covered both valves. I wonder how long they were.



Photo by Stan Celestian

...Brachiopoda continued from page 10



FIGURE 17 *Penicularis bassi* from the Permian Kaibab Formation, Coconino County, Arizona. This is a robust productid common in the Kaibab. Note the 'ears' and small spine nubs.
Photo by Stan Celestian



FIGURE 18 *Atrypa sp.* from the Devonian Martin Formation at Diamond Point, Gila County, Arizona. This species has distinctive radial ribbing and growth lines with outgrowths, producing a frilly effect. Large brach is 1" across.
Photo by Stan Celestian



FIGURE 19 THESE RHYNCHONELLID brachiopods, out of the Devonian Martin Formation are distinctive for their small size, strong plication, and wedge shape. On the left: *Atribonium n.sp.* ; on the right: *Cupularostrum saxatilis.*
Photos by Stan Celestian

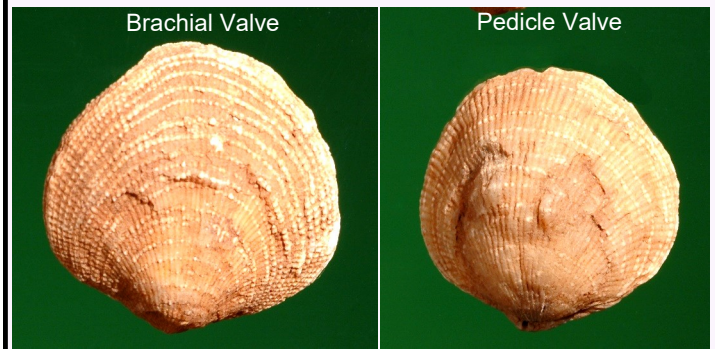


FIGURE 20 *Pseudoatrypa* from the Devonian Martin Formation Coconino County, Arizona. Note the strongly convex pedicle valve and much flatter brachial valve. 1" diameter
Photo by Stan Celestian



FIGURE 21 *Platystrophia ponderosa* from Ordovician rocks near Sligo, Pendleton County, Kentucky. This is a robust-shelled, strongly plicated brachiopod. Plica probably fortify the shell, but also -- as seen in the diagram below -- they may act as a "sieve" to keep large sediment particles out (that could clog up the lophophore).
Photo by Stan Celestian

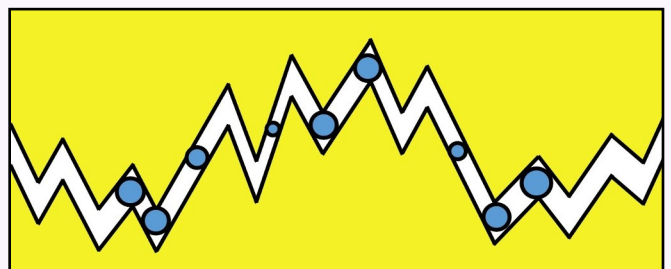


FIGURE 22 PLICA Plica strengthen a shell, and may delimit the size of particle that is allowed entry into the shell interior. When a strongly plicated brachiopod opens its valves, the spacing of the opening allows the largest particles in only at the peaks. A stronger shell and selective entry may allow the brachiopod to occupy a higher energy environment.
Illustration by Susan Celestian

...Brachiopoda continued from page 11

FIGURE 22 *Zygospira sp.* from the Ordovician Waynesville Formation near Waynesville, Warren County, Ohio. This is a cutie -- only about 3/16" across.

Photo by Stan Celestian



FIGURE 23 *Rafenisquina sp.* from the Ordovician rocks near Sligo, Warren County, Arizona. This brachiopod is characterized by its thinness. Both valves are present in this specimen. I don't think it would be a very tasty morsel. More crunch than taste :-). Photo by Stan Celestian

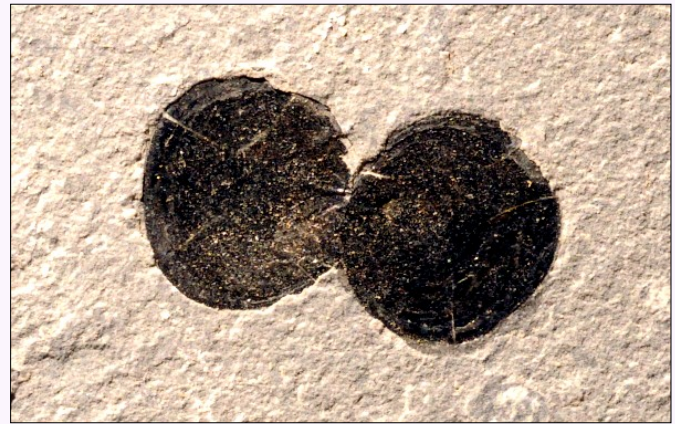


FIGURE 25 *Acrothele subsidua* from the Cambrian Wheeler Shale, Millard County, Utah. Each valve of *Acrothele* is about 1/4"-3/8" in diameter. The shell is an organic chitino-phosphate, and the valves are very flat -- it does not seem to be enough room for any organs. One valve was attached to a substrate, and the valves open using muscles without benefit of hinge teeth.

Photo by Stan Celestian

INARTICULATE BRACHIOPODS



FIGURE 24 *Lingula anatina* from Stradbroke Island, Australia. This is an inarticulate brachiopod -- no hinge teeth. The shell is composed of chitin and calcium phosphate, and is very thin, soft and flexible. The genus lives in burrows in soft sediment of oxygen-poor estuaries and mud flats. Contraction and extension of the pedicle (shown in the photo) allows the organism to extend out of the burrow or shelter deeper in the burrow.

The genus *Lingula* has existed almost unchanged since the Cambrian or Ordovician, leading to consider it a "living fossil". Photo taken by Andreas Altenburger; modified by Mark A. Wilson, and entered into Public Domain.



FIGURE 26 **INARTICULATE BRACHIOPOD** from the Naco Formation, Gila County, Arizona. This brachiopod is about 1 inch in diameter (we have never found both valves of any individual). Note the porcelaneous look to the valve. That is due to the phosphatic composition, which gives a bluish cast. Photo by Stan Celestian



GENERAL RESOURCES FOR BRACHIOPODA

- <https://en.wikipedia.org/wiki/Brachiopod>
- <https://ucmp.berkeley.edu/brachiopoda/brachiopoda.html>
- <https://wgnhs.wisc.edu/wisconsin-geology/fossils-of-wisconsin/brachiopod-gallery/brachiopods/>
- <https://www.earthlife.net/inverts/brachiopoda.html>
- <https://ocean.si.edu/ocean-life/invertebrates/modern-day-brachiopod>
- <http://geokansas.ku.edu/brachiopods>

...Jadeite continued from page 2

Qualities that contribute the most value to jadeite are color, transparency, and grain size. The most valued is apple to emerald green, followed by purple. The Chinese revere jadeite, and bangles are very popular among women and men -- and very expensive! They may be worn throughout the life of the owner, who believes that it becomes purer and more powerful over time.

The finest jadeite, by far, is considered to be from Myanmar (Burma). However, beautiful material also comes from Guatemala, Russia, Japan, Kazakhstan, and California.

Go to <https://www.masonkay.com/storage/app/media/mason-kay-color-chart-updated.pdf> to see a jeweler's poster of colors, translucency, and texture.

Go to <https://www.mkjadejewelry.com/> for images of some gorgeous jadeite jewelry. Other images of jadeite follow in Figures A-K.

**FIGURE A
JADEITE INCENSE
BURNER**

This is an Imperial Jade carving from China, on display at the Field Museum of Natural History, in Chicago, IL. Photo by James St. John is licensed under [CC BY 2.0](https://creativecommons.org/licenses/by/2.0/)



**FIGURE B
JADEITE INCENSE
BURNER**

This is another jadeite carving from China, on display at the Field Museum of Natural History, in Chicago, IL. Photo by James St. John is licensed under [CC BY 2.0](https://creativecommons.org/licenses/by/2.0/)



FIGURE C JADEITE BANGLES show off some of the color variety encountered in high quality jadeite. Photo by Margaretico is licensed under [CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/)



FIGURE D JADEITE PENDANT from Guatemala. This is the characteristic green and white mottled variety typical of Guatemala. Photo by Stan Celestian



FIGURE E JADEITE BEADS, likely from Myanmar (Burma). The color is a beautiful translucent green. Photo by Stan Celestian

GENERAL RESOURCES FOR JADEITE

<http://www.galleries.com/jadeite>
<https://www.gia.edu/jade-quality-factor>
<https://agta.org/education/gemstones/jadeite/>
<https://www.mindat.org/min-2062.html>
<https://en.wikipedia.org/wiki/Jadeite#Colors>
<https://www.britannica.com/science/jadeite>

UPCOMING FIELD TRIPS & MEETINGS

Nothing planned for sure at press time, but watch your email for announcements.

DATES SUBJECT TO CHANGE

Bill and the field trip committee will be actively looking for productive spots for field trips. If you have any suggestions, you are encouraged to contact him at bfreese77@cox.net

Bored? Need a crystallographic mobile? Go to http://webmineral.com/crystal.shtml#_XsgezmhKg2x. There you will find downloadable patterns for making many crystal forms.

synthpaper.net
http://webmineral.com
Instructions:

1. Print on Heavy Paper Card Stock for best results
2. Cut Along Lines
3. Fold and crease Tabs and crystal faces
4. Test fold crystal to check fit
5. Apply White Glue on Tabs, one pair at a time using Toothpick
6. Hold Tabs Together until Dry
7. Repeat for Each Tabs

FACEBOOK



Visit and join the club page periodically. See what is happening, and boost our visibility on the web. Go to: [The Daisy Mountain Rock and Mineral Club](https://www.facebook.com/daisyMountainRockandMineralClub). It is set up so you can post photos of outings or related items. Share with friends!

AWARD-WINNING WEBSITE

<http://www.dmrmc.com/>

If you have comments, contact Nancy Gallagher.

INSTAGRAM



Follow the club on Instagram. Go to <https://www.instagram.com/daisymountainrockclub/> and follow today. Share with friends!

Officers, Chairpersons, & Trustees

- President:** Ed Winbourne.... ewinbourne@gmail.com
- Vice President:** Bill Freese..... bfreese77@cox.net
- Secretary:** Rebecca Slosarik .. rslosarik1@gmail.com
- Treasurer:** Cynthia Buckner.... Cbuckrun1@q.com
- Publicity:** Jessie Redmond...
- Membership:** Tiffany Poetsch tnpoetsch@gmail.com
- Editors:** Susan & Stan Celestian..... azrocklady@gmail.com
- Field Trip:** Bill Freese ... bfreese77@cox.net
- Show Chair:** Ed Winbourne
- Trustees:**

- | | |
|------------|-----------|
| Cynthia V | Claudia M |
| Susan C | Tiffany P |
| Bob E | Jim R |
| Jennifer G | Witt R |
| Don R | Howard R |
| Jessica C. | Rebecca S |
| Johnaton M | Joe G |
| Clark L | |

Meetings are held the **1st Tuesday of the month** at the **Anthem Civic Building**, 3701 W Anthem Way, Anthem, AZ 85086. General meeting at 6:30 pm. We **do not meet in July or August.**

DMRMCLUB@GMAIL.COM

Membership Dues:
 First year \$30, then \$20.00 Adults per Person
 First year \$45, then \$25.00 Family (2 people)

Meeting Dates for 2020

Jan 7, Feb 4, Mar 3, Apr 7, May 5, June 2, Sept 1, Oct 6, Nov 3, Dec 1

MEETINGS CANCELLED UNTIL FURTHER NOTICE DUE TO COVID-19 RESTRICTIONS

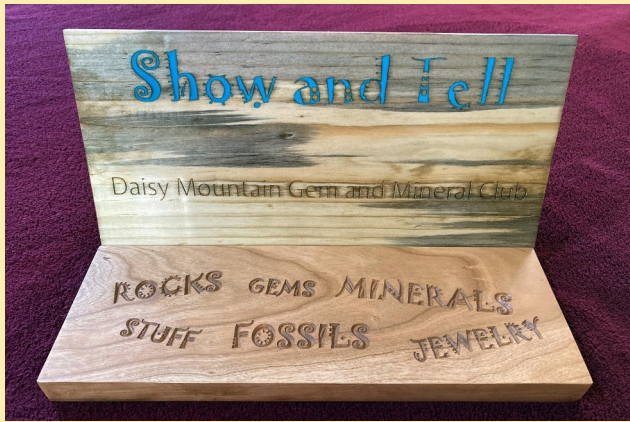
Words of Wisdom

from our very own

Bob Evans



To me, the phrase "Drink Responsibly" translates as "Don't Spill Anything".



Share!

Part of the fun of being in a rock club is sharing with members. Have you found a cool rock -- recently or in the past? Have you made something out of a rock or mineral?

Bring an item in to the monthly and tell its story.

Everyone who brings in something for Show & Tell will get an extra ticket for the attendance/nametag raffle.

ROCKY MOUNTAIN FEDERATION SUMMER MULTI-FEDERATION FIELD TRIPS JUNE 13-16, 2020

The RMF Show & Convention is being held in Big Piney, Wyoming June 19-21. Prior to the event, there will be collecting trips available. Planned already is Blue Forest for petrified wood (<http://blueforestpetrifiedwood.com/about-us/>) and Green River Formation for fish fossils (\$fee). Others are in the works.

Interested in the field trips? Contact Doug True dtruefossils12@yahoo.com
Interested in the Show? Contact Jim Gray jimgray@wyoming.com

For more information/registration go to:

https://mcusercontent.com/a2ce2966ec6188e041bd58c21/files/ab24fc42-f110-4286-b2c5-b5af797e2fca/2020_RMFM_S_Convention_in_Wyoming_Packet_REV_1.pdf. If you think you'd like to

attend, you might want to start making campground or motel reservations. The closest facilities will fill up fast -- there probably aren't any motels closer than 20-25 miles away, and you'll want to get a spot as close as you can.

NEEDED: QUALITY MINERAL (or OTHER) DONATIONS WITH LABELS -- for monthly raffle prizes; and for raffle, door prizes, and sales tables at the annual show. If you have specimens to donate, please see Robin Shannon. The Daisy Mountain Rock and Mineral Club is a 501(c)(3) non-profit organization, and will gratefully acknowledge your donation with a Tax Deduction Letter. Thank You!

NOTE FROM THE EDITORS

Have a geological interest? Been somewhere interesting? Have pictures from a club trip? Collected some great material? Send us pictures -- or write a short story (pictures would be great).

Deadline for the newsletter is the 22nd of the month.

Mail or Email submissions to:

Susan Celestian
6415 N 183rd Av
Waddell, AZ 85355
azrocklady@gmail.com

WIRE-WRAPPING CLASS

4:30-6:30 pm

Prior to the meeting

Bring: cab or stone, about quarter-sized or larger; 26 and 18 or 20 gauge copper-based wire; round nose pliers and flush wire cutter, beads (optional), little clamps, masking tape, E6000 jewelry glue.

Free, but donations are appreciated.

Questions? Contact Jennifer at Jennifer@eliteshuttersandblinds.com

FOR MAY

**SEE YOU WHEN MEETINGS RESUME!
STAY WELL!!!!**

BRING PAPER & A PEN TOO!



Visit <http://rmfms.org/> for news about conventions, events, and associated clubs. If you are travelling, you might want to contact a club local to your destination. Maybe they have a field trip you could join, while in town.

UPCOMING AZ MINERAL SHOWS

May 29-31 - Flagstaff, AZ Coconino Lapidary Club; Fort Tuthill County Park Fairgrounds - Commercial Building, 2446 Fort Tuthill Loop; Fri-Sat 9-5, Sun 9-4; Admission: free.

CANCELLED

June 19-21 - Big Piney, WY Wyoming State Mineral & Gem Society PLUS Rocky Mt Federation Convention; Sublette County Fairgrounds, 10937 Hwy 189; Fri-Sat 9-5, Sun 9-4; Admission: adults \$2, children free. See poster on page 26.

July 11-12 - Lakeside, AZ White Mountain Gem & Mineral Club; NEW VENUE Country Court Event Hall, 3369 W White Mountain Blvd.; Sat 9-6, Sun 10-4; Admission: adults \$2, children under 16 free.

July 31-August 2 - Prescott Valley, AZ Prescott Gem & Mineral Club; Findley Toyota Center, 3201 N Main St; Fri-Sat 9-5, Sun 9-4; Admission: adults \$5, seniors, vets, students \$4, children under 12 free.

September 25-27 - Clarkdale, AZ Mingus Gem & Mineral Club; Clark Memorial Clubhouse Auditorium, 19 North St; Fri-Sat 9-5, Sun 10-5; Admission: free.

October 9-11 - Buckeye, AZ West Valley Rock & Mineral Club; Buckeye Arena, 802 N 1st St; Fri-Sat 9-5, Sun 9-2; Admission: adults \$3, children under 13 free.

October 10-11 - Sierra Vista, AZ Huachuca Mineral & Gem Club; Cochise College, 901 N Colombo Av; Sat 9-5, Sun 10-4; Admission: free.

If you are travelling, a good source of shows AND clubs is <http://the-vug.com/educate-and-inform/mineral-shows/> or <http://www.rockngem.com/ShowDatesFiles/ShowDatesDisplayAll.php?ShowState=AZ> For out-of-the-country shows: <http://www.mindat.org/shows.php?current=1>

This schedule could change due to pandemic-driven policies. Check The Vug (URL above) for announcements or phone numbers to confirm that a show will go on.

THE CORONAVIRUS (COVID-19), THAT HAS SPREAD GLOBALLY, IS PROMPTING WARNINGS TO SOCIALLY DISTANCE OURSELVES FROM EACH OTHER.

AS A RESULT, IN THE FORESEEABLE FUTURE, CLUB MEETINGS, SHOWS, ARE CANCELLED.

OUTINGS HAVE RESUMED, WITH POSSIBLE LIMITS ON ATTENDANCE, SO WATCH YOUR EMAIL FOR CLUB ANNOUNCEMENTS -- AND READ THEM!

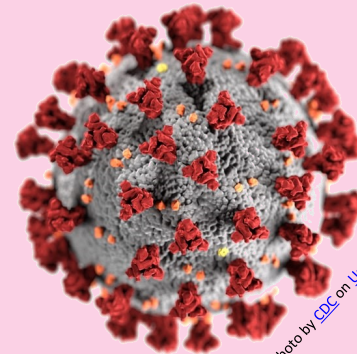


Photo by [CDC](#) on [Unsplash](#)

STAY WELL AND HOPE WE CAN ALL GET TOGETHER SOON!



From the collection of NHMLA -- Unusual Talc crystals from Zederhaus Valley, Lungau, Salzburg, Austria. Photo by Stan Celestian and with permission of the Natural History Museum of Los Angeles County (NHMLS).

Rocky Mountain Federation of Mineralogical Societies convention
&
Wyoming State Mineral & Gem Society show

Gem & Mineral Show



2020

***ROCK & ROLL WITH
WYOMING ROCKS***

Hosted by the Sublette County Rock Hounds

June 19th, 20th, & 21st

at the Sublette County Fairgrounds
10937 Hwy 189, Big Piney, Wyoming

Friday & Saturday 9-5, Sunday 9-4

*Dealers, lectures, demonstrators, exhibits, field trips, Mr. Bones, Fossil
Butte National Monument walking fish fossil, fluorescent mineral
display, kids' activities, food concession & more!*

Admission: \$2.00 adults, kids free



and a funding contribution made by Pinedale Travel & Tourism Commission www.VisitPinedale.org

Contact: jimgray@wyoming.com