



December Edition, 2019



## COULEE ROCK CLUB - PEBBLE PUSHER

**What:** Coulee Rock Club Meeting

**When:** Second Saturday of the Month  
(September—May)

**Where:** 515 Quincy, Onalaska WI  
Community Center

**Time:** 9:30 AM—Noon

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### PRESIDENT'S MESSAGE

Hope you are enjoying the beginning of the holiday season. I want to remind you that our December meeting will be a different date because it is our Christmas social. We need to be courteous to the restaurant for accommodating our large numbers on that busy day and time - a final set up count is needed. Please reply.

Elections for the new year will be completed then too. Please consider getting involved in an officer roll to help our club continue to work well in all aspects. Needed: Treasurer and Pebble Pusher editor.

So save the date before the holiday season gets too busy. We will NOT be meeting on the usual 2nd Saturday in December.

Instead:

Sunday December 15  
Drugan's Castle Mound restaurant  
W7665 Sylvester Rd, Holmen, WI 54636  
noon to 2:00

Breakfast Buffet: \$12  
Lutefisk and Lefse dinner: \$16 (can you tell this is a Norwegian place?)  
other full menu items at drugan's.com  
all above include a great soup and salad bar

This is an "order your own dinner" and a chance to enjoy time with club members.

If you want to be included in our Holiday gift exchange bring a wrapped, rockhound related gift valued around \$10 for each family member who is participating in the exchange. It's always fun to see what everyone brings.

We will need a final count for these large table reservations and staff so please reply to me no later than December 8.

Hope your Thanksgiving was a wonderful day with family or friends.

Sally Frisby president



The purpose of the organization is: to stimulate scientific and educational interest in geology, mineralogy, paleontology, lapidary arts, archaeology, to promote the opportunity of the study of these sciences, and to assist individuals in furthering these purposes, to be a social and recreational organization, to promote safety and support efforts to preserve our land and its resources. The Coulee Rock Club may provide speaker services, subscriptions to local libraries; gem, mineral and fossil specimens for study; study materials related to earth science to local schools and scholarships to Winona State University. Club members may also participate in donations to the AFMS Scholarships and the MWF Endowment Fund. The Coulee Rock Club recognizes the importance of continuing educational opportunities for all, especially the junior rock hounds interested in the hobby. The Coulee Rock Club is also happy to be a sponsor and participant of the Rock, Gem, and Mineral show held the first full weekend in June every year. All ages welcome.

### **2019 Coulee Rock Club Officers**

<b>Office</b>	<b>Officer</b>	<b>Phone #</b>	<b>Email Address</b>
President	Sally Frisby	608-385-1722	sfrisby@triwest.net
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Clay Denham/Editor

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Email or mail all articles, field trip stories, pictures, meeting minutes and presidents message to Clay Denham following each months meeting or anytime for stories/articles to be published in the "Pebble Pusher" in that months edition. The "Pebble Pusher" is published monthly (September through May). Articles from the "Pebble Pusher" may be republished if proper credit is given.

### **Member Benefits:**

Meet other dedicated rock hounds to share good stories and good food; our meetings are potluck

- Learn about rocks, gems, and minerals from others who have worked and collected in this field for many years.
- Learn best places to find specimens and get help identifying your specimens.
- See fantastic specimens brought in by our members to share and discuss.
- Join field trips to local collection spots.
- Find your very own rocks, minerals, and fossils.

**Coulee Rock Club****515 Quincy Street, Onalaska, WI****Minutes for Oct. 12, 2019****Approved at the November 2019 Meeting; To Be Published in the December 2019 *Pebble Pusher***

**Members Present:** Linda Mast, Frank Mathison, Judy Mathison, Russell Kendle, Steve Mansfield, Jeff Haavind, Clay Denham, David Whistleman, Rosemarie Whistleman, Bill Egeland, Jr., Chad Egeland, Apryl Denny, Jonathan Amberson, Quincy Amberson, Henry Amberson.

**Secretary's Report:** Our last meeting was in June, an informal meeting with six in attendance. The club discussed the outcome of the Rock Show and held drawings for prizes that members who volunteered at the show were eligible to win. Club members volunteered a total of 406 hours during the June 2019 Rock Show.

**Treasurer's Report:** Our current holdings are \$8834.70, and we have no outstanding bills.

**Pebble Pusher** be sure to send pictures to Clay if you go on a field trip. Clay will be stepping down from his position as editor. Please let Sally know if are interested in taking over this job.

**Field Trips:** Although we never got to the Root River because of flooding, we did go hunting in MN, on two Yooperlite trips to Ironwood, MI, and at the Keokuk Geode Festival. Contact Linda if you are interested in making another trip to Ironwood before the cold weather sets in.

**Donations** Root N Crown's lot has been sold, and its building will be torn down to build a new Kwik Trip. They are planning to relocate; in the meantime, keep donating.

**Old Business**

Rock Show—we were disappointed because hardly anyone came to the presentations; they didn't want to leave the show. Next year we will plan more events to take place on the floor. Our profit from the show was \$4144.17.

Rock Swap—only two people had committed to sell before the week of the show, but it was a go at the last minute anyway with several vendors. Eau Claire had a similar event with 16 vendors this year. We might want to plan a trip to that show/swap next year. We might switch our own swap to Quincey Street to attract more buyers.

**New Business**

The annual Christmas Party-- is in the planning stages. We are looking at Senor Villa as a possible location.

Possible activities for upcoming meetings—Jeanie from the rock shop at 200 Main Street as a speaker and/or Dale Westaby to speak on agates. Possible trips we might make: Bernie's Rock Shop; the Madison Gem and Mineral Shop, near Johnson St. in Madison. Visitors on Saturday are allowed 4 hours of shop time on the lapidary equipment for a reasonable price: \$5 for a visit. Dodgeville mining museum and Rock Shop--\$7 entrance fee from May to the end of October; the rock shop near Calumet—lots of rocks on display and for sale.

**Minutes for Oct. 12, 2019 (continued)**

**Field Trip Committee**—Linda needs people to lead trips. Please volunteer to be on the committee and/or to lead trips. For those who are gung ho to hunt right now: Garven Heights in Onalaska has lots of Druzy. Go up to Windcrest Drive then walk down. Also, in Winona—White Water State Park has upcoming events.

**Elections for 2020**--Clay is stepping down, so we need a volunteer to edit *The Pebble Pusher*. Also, Frank is stepping down as Treasurer, so we are looking for a volunteer for that task. Other officers are willing to remain, but we will need volunteers to take Pam's jobs—chairing Earth Day and heading the kids' corner at the Rock Show.

**WI River Ice Age video**—available on YouTube

**Winona State University Scholarships**—for 15 years we have given money from our Rock Show for two people to get scholarships to Winona State. Now they have changed the format of those donations. We have to commit to a fixed amount to donate each year. Last year we didn't give them any money because of confusion about whether and how much we were contracted to donate. We all agreed that we should donate this year. A motion was made, seconded, and passed unanimously that we give \$1000 to Winona out of our profits from the Rock Show this year. Sally will check with WSU about contracting to give an annual minimum amount that we can increase in any year that our finances allow.

**Garage expenses**—Frank and others debated when our garage bill is due (\$600 per year) and agreed to follow up to see if we have paid it for this year and next.

**Two Beagles**—Due to their declaration of bankruptcy, the restaurant still has not returned our deposit for securing a room for our Christmas party. Lawyers sent statements indicating how much Two Beagles owes us (\$200). It is unlikely we will ever collect the money.

We tabled further discussion until our next meeting; the meeting was adjourned.

Respectfully Submitted,

Apryl Denny

CRC Secretary





## Morton Gneiss

Morton gneiss (pronounced “nice”), named for the town in Renville County where it has been quarried, is one of the oldest stones on the planet: about 3.5 billion years old. It is known for its beauty as an ornamental stone in buildings and monuments. The rock known as Morton gneiss started out as a gray granite, formed about 3.5 billion years ago deep beneath the surface of the Earth. Molten rock cooled slowly, forming grains (granite comes from granum, the Latin word for grain) of crystallized minerals.

About a billion years later, two fragments of the Earth’s crust collided at the future location of southwestern Minnesota, subjecting the granite to heat and pressure. These forces melted it once again and allowed intrusions of molten pink granite. The two granites folded and twisted; when they hardened (very slowly), the twists and folds remained. Eight hundred million years later, another geologic heating event added additional color and texture.

When cut and polished, Morton gneiss shows bands and swirls of black, pink, and gray, with white flecks, that sometimes look like galaxies and nebulae floating in the cosmos. The rock’s colors come from quartz (white), pink feldspar (pink), gray feldspar (gray), and biotite and amphibole (black).



About one hundred million years ago, geologic forces slowly pushed Morton gneiss to the Earth’s surface. The glaciers that advanced and retreated across southwestern Minnesota between two million and 12,000 years ago covered the rock with hundreds of feet of soil and rock. The last glaciers began receding about 12,000 years ago.

A vast body of water known as Lake Agassiz formed in southern Canada, Minnesota, and North Dakota. When that water drained to the south, forming the River Warren, it carved out the Minnesota River valley. This powerful flow washed away hundreds of feet of glacial deposits and exposed some of the Morton gneiss.

Workers began quarrying this gneiss at Morton, Minnesota, around 1884. In these early years, railroads used it for ballast beneath railroad tracks. In 1886, the Swedish immigrant John Anderson arrived in Morton and took a job as a foreman in the quarry. It was located in the village of Morton, between the railroad tracks and the Minnesota River. By 1900, Anderson owned the quarry. He sold it to Cold Spring Granite Company in 1930.

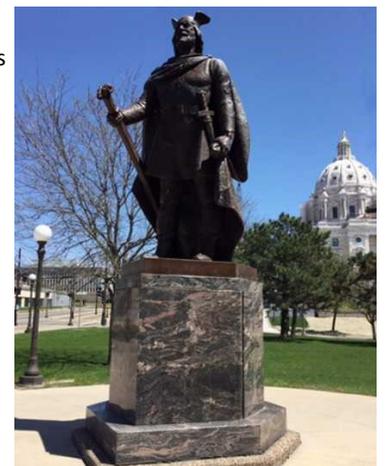
Though Morton gneiss is as tough and durable as granite, it has rarely been used as a building stone. Architects have used it mainly in the lower floors of large buildings for its visual appeal. It enjoyed its greatest popularity during the Art Deco era of the 1920s and 1930s. Perhaps the most spectacular use of the stone can be found at the Adler Planetarium in Chicago, completed in 1930. Around the country it was used prominently in New York, Detroit, Des Moines, Birmingham, Tulsa, Milwaukee, Hartford, Brooklyn, and Cincinnati. It figures in two buildings at Washington State University in Pullman: Holland Library (1950) and its addition, Terrell Library (1994.)

In the Twin Cities, the stone was used by Northwestern Bell Telephone Company in its downtown Minneapolis and St. Paul headquarters. In downtown St. Paul, it was used at the street level of the West Publishing Company building on Kellogg Boulevard and in the original Ecolab Building at Fifth and Wabasha Streets.

Since the mid-twentieth century, Morton gneiss has been used more for grave markers and mausoleums than for buildings. At the Bird Island Cemetery, in Goodhue County, a free-standing arch of Morton gneiss greets visitors. The Wellstone family marker at Lakewood Cemetery in Minneapolis uses a large, uncut stone.

In Morton, the town’s welcome signs are made of gneiss, as are the front of the town liquor store and panels on the old high school. The stone is so plentiful there that it is used as riprap (erosion-reducing rubble) along ditches and streams.

Zion Lutheran Church may be the only building made entirely of Morton gneiss. The State of Minnesota designated a huge outcrop of the stone, in Morton, the Morton Outcrops Scientific and Natural Area. Visitors there can see Minnesota’s oldest rocks, eroded but unquarried. Along with Kasota stone, St. Cloud granite, and Platteville limestone, Morton gneiss makes a distinctively Minnesotan contribution to the built environment.





## Fossil Preparation

Fossil preparation or cleaning can be done in the home or in a fancy lab. Sometimes all it takes is a toothbrush and water. If the fossil is sturdy, like coral and many brachiopods, this method will remove all the mud and loose matrix. However, if your fossil has any cracks in it, if it is fragile, or if it sits on soft shale, do not try to brush it off with water. Fossils like trilobites, bones and fragile brachiopods will dissolve or fragment. To make something fragile look better, you need a different method to clean your specimen.

Let's assume you have a complete trilobite and would like it cleaned. Part of it is buried in the rock and part is exposed but covered with a thin layer of shale.

To expose the buried portion of the trilobite, miniature pneumatic hammers will be used. Ever so carefully the hammer's pounding chips away tiny fragments of the matrix hiding the trilobite. Usually the matrix touching the trilobite shell pops right off after most of the upper matrix is removed. Great care is taken not to touch the trilobite with the hammer.

Before micro-airhammers were used, fossils were exposed using small steel picks like dentists use (this process is still used in many labs today). The method works very well, as you can see in any older museum collection, but it takes a long, long time to accomplish what an airhammer can do in a short time!

OK, the trilobite has been totally exposed, but is still covered by a thin layer of shale. It is time to pull out the microsandblaster. These instruments, using high air pressure, shoot a tiny regulated amount of powder through a hose and nozzle onto the fossil, eroding the soft rock away while leaving the harder trilobite's shell intact.

With experience or careful experimentation, the air pressure and powder flow are adjusted to remove the matrix from the fossil without "burning" the trilobite's shell away with the rock. All the work is done under a microscope under the watchful eye of the preparator, who is alert for new or previously unnoticed cracks in the shell that will need to be stabilized.

The eyes need special attention. Many kinds of trilobites have the lenses still in the eyes, and these are very fragile. With delicate and precise microsandblasting, the entire eye is cleaned so each lens is perfectly exposed without being damaged!

Finally, the rock itself is spruced up. All the chisel marks from the hammers are ground away using either a combination of airhammer and air abrasive, or with a grinder like a dremel tool. The matrix is shaped into the way it best displays the trilobite. Occasionally, new fossils are discovered under the matrix during this step. These are cleaned up and make nice surprise additions for the piece.

When it's all done, sit back and admire your trilobite. It's no longer grey and covered with rock -- it is a beautiful black or brown color, looking like it will crawl off the rock any moment.



cleaned *Flexicalymene meeki*

## DECEMBER BIRTHSTONES



### Turquoise

Turquoise is traditionally the birthstone for December, and remains the December birthstone in modern gemology. The gemstone was an ancient birthstone of December from as far back as the old Polish and Russian calendar. Before the gemstone entered these ancient calendars as December gemstone, turquoise was a zodiac stone for Sagittarius, which falls partly on the month of December. This gemstone for December is a rare opaque stone that occurs in colors ranging from blue to green. The December stone is believed to relieve mental tension and increase luck.



### Zircon

Zircon was traditionally the birthstone for December, and remains the December birthstone in modern U.S. gemology, after the gemstone replaced lapis lazuli in 1952. While zircon occurs in a rainbow of colors, the variety of the transparent gemstone most popularly accepted as the December stone is the blue zircon. The December gemstone is believed to bring peace of mind and prosperity.



### Tanzanite

Tanzanite is a modern birthstone for December, having been added as America's December birthstone only in 2002, while already recognized as December gemstone in Britain by the time. This stone for December itself is a relatively recent discovery, having been found only in 1967 in Tanzania, hence the name *tanzanite*. The December stone is a transparent gemstone ranging in color from blue to purple.



### Lapis Lazuli

Lapis lazuli is traditionally a birthstone for December. This December birthstone is also the planetary stone of Capricorn, which falls partly on the month of December. Lapis lazuli was a modern birthstone of December in the United States of America until February of 2013, when the American Gem Trade Association replaced the gemstone with zircon as December stone. Lapis lazuli is an opaque deep-blue gemstone mottled with yellow and white. This gemstone for December is believed to heighten awareness, expand perspective, and free a person of negativity.



### Ruby

Ruby is the ancient birthstone for December in the old Arabic, Hebrew, Italian, Roman and Indian (Ayurvedic) calendar. Before the gemstone landed on these ancient calendars as December birthstone, ruby was the zodiac stone for Capricorn, which falls partly on the month of December. This birthstone of December is the red variety of corundum, which would otherwise be called sapphire in another color. The December stone is believed to strengthen the mind and bestow courage.



## Brad's Bench Tips for December

### DIVIDERS

A set of dividers is a tool I find very useful in laying out the geometry of a piece I'm making. It has two needle-like tips with an adjustment to set the spacing between them.

They can be used to transfer a measurement. Let's say you need a 7mm wide strip of sheet metal. Set the spacing between the divider tips to 7 mm on the ruler. Then lay the sheet on the bench, put one tip against the edge, and run the dividers down the edge scribing a line parallel to the edge.

Dividers can be used to mark equal segments of a line or arc. For instance, assume a line between A and B that might be straight or curved, and you want to divide it into 5 equal lengths. Set the dividers to an estimate of the distance. Starting at Point A, use the dividers to mark off five lengths along the line. If you end up short of Point B, lengthen the distance on the dividers. If you end up overshooting Point B, shorten the length of your dividers. After a few tries, the length on the dividers will be the exact distance you need to mark the 5 segments.

Dividers can let you quickly find the center of a circular disk. With one tip of the dividers at the edge of the disk, set the other tip to an estimate of where the center might be. Fix one tip of the dividers at the 3 o'clock position and scribe an arc with the other tip near the center. Do this again from the 6 o'clock, 9 o'clock, and 12 o'clock positions. The arcs at the center will form a small four-sided box, and the center of the box is at the center of the disk.

With the holidays coming up soon, one of Brad's "How To" jewelry books is a great way to help a friend learn a few new skills. See all the books at [Amazon.com/author/bradfordsmith](https://www.amazon.com/author/bradfordsmith)



*Work Smarter & Be More Productive With Brad's "How To" Jewelry Books*

[Amazon.com/author/bradfordsmith](https://www.amazon.com/author/bradfordsmith)





## A Geologist's Christmas Carol

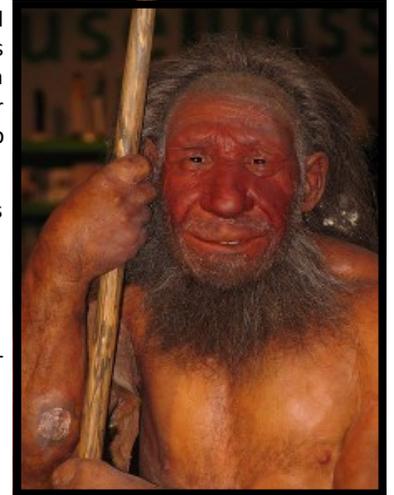
Back in the depths of the Little Ice Age, lived a cruel, cold-hearted man called Professor Ebenezer Lapworth. Ebenezer owned a geotechnical engineering firm called 'Scrooge's Slope Stabilisation' and employed a significant workforce. However, his employees worked for pittance; they had no holidays for fossiling and defiantly NO coal in their stockings! The Black Country Geological Society once approached Ebenezer to assist with a graduate training scheme, but were immediately told on no uncertain terms to "Rock Off!" and take their graduates with them.

It was approaching Christmas, a boom time for Ebenezer's business as vegetation was thin and access to rock faces was at its easiest. For this reason his employees worked tirelessly throughout the holiday, but Christmas 2012 was one which Head Geoscientist, Dr Bob Fossil was determined to spend with his family. It was Christmas Eve and after much encouragement from his colleagues, Dr Fossil built up the courage to ask for the Christmas week off, to which Ebenezer dismissed in a fluster of mutterings and abuse. However, Dr Fossil held a trump card, who else who be open for business? Ebenezer had no reply, and finally relented. Ebenezer Lapworth offered the consolation prize of 1 day's unpaid holiday on Christmas Day, which allowed Bob Fossil to spend the last Christmas with his very ill son.

That evening on the eve of Christmas, the freezing air felt like a million ice daggers pounding Ebenezer's wicked face as he stumbled home from the local real ale pub. Reaching his dark, mysterious house he flung open the door to reveal a personal museum of rare, sparkling and very pretty rocks and fossils. That evening Ebenezer sat in a single room eating rock cakes, with only a small lava lamp and a glowing specimen of Uraninite for illumination (to save money on lighting the whole house!). Suddenly, the lava lamp stopped convecting and the Geiger counter stopped crackling. Out of the gloom appeared a ghostly vision. "Who are you?" Ebenezer muttered under his breath. "I am your old business partner.....Jacob Murchison" groaned the transparent figure. Murchison warned Ebenezer of his impending doom upon his death, constricted by the chains forged in life (and in the Black Country) for all eternity. Forgivingly, there was a chance to save his damned soul. Squirming for some sort of comfort Ebenezer was primed for the visit of three ghosts during the night. In a flash, the room returned to normal, convection resumed and the mineral glowed once more.

Ebenezer blamed his hallucinations on the real ale, but went cautiously to bed carrying his Uraninite with him. As he struggled to sleep he counted trilobites jumping over coral until his heavy eyes shut tight. The next thing he remembered was a bright light illuminating the room, a rough, primitive voice grunted "I am the ghost of Christmas past". Ebenezer peered from beneath the duvet to see a big nosed, hairy Neanderthal pointing a spear at him. With a jab of the flint spearhead they were transported to Ebenezer Lapworth's childhood. Ebenezer looked helplessly at his days as a young geology student, throwing rocks at the teacher and making smaller children lick the halite samples. He gazed on as he mixed up the sequence of metamorphic samples laid on the table, baffling the class. "No more!" he yelled like a little girl. The Neanderthal lead him away to his first Christmas party in a geotechnical company, during the vision has saw himself as a graduate, complaining to his manager about how much the party has cost and that the money would be better spent on drill heads. In a pulse of light the ghost strolled off into the distance and Ebenezer was back in his bedroom gasping for breath.

Minutes following the exit of the first ghost a second phantom ascended from the floor, which was tiled in Rapakivi Granite. "I am the ghost of Christmas present" snorted a deep, muffled voice. To Ebenezer's horror, towering over him was a giant talking Pleistocene ground sloth known as Megatherium. Ebenezer frowned as the sloth guided him into a white mist with his enormous claws, "Come, we have little time as I grow older every second" claimed the sloth. They reappeared amongst the excitement of Christmas day in the market, seeing the hustle and bustle of people buying Christmas dinner. They then viewed Christmas in a miner's cottage, where they were short of coal and not a fossil display in sight, yet they were full of joy and happiness on this day. Finally, the sloth took Ebenezer to observe the scene at Bob Fossil's house. There, he gazed on to see a happy, vibrant scene of Bob Fossil with his family and very ill son, Trilobite Tim. He continued to observe as Bob's wife began complaining about Ebenezer, his greed and his cruelty to everyone who crosses his path. Ebenezer was shocked when Bob stuck up for him, explaining how he was responsible for providing their Christmas dinner as Bob's employer to the answer of "Huh....This measly meal....As he feasts in luxury!" from Bob's wife. "Enough spirit, I have seen enough" blubbered Ebenezer before reopening his eyes to see the sloth, now looking very old walking away from him in a spooky old graveyard.



Ghost of Christmas Past



Ghost of Christmas Present



## A Geologist's Christmas Carol (continued)

Moments later, a dark spectre materialised in the fog, "I am the ghost of Christmas yet to be" whispered a quiet, yet deep voice. Shuddering vigorously, Ebenezer stepped closer to see the Woolly Mammoth eyeing him up. The mammoth pointed with his trunk to a gravestone made from blue Lavikite Granite, Ebenezer stumbled over like a drunken fool and reluctantly wiped away the grime to reveal his own name. Falling backwards in horror, he grasped for comforting words "The future can be changed...a man can break his chains" wept Ebenezer. In a heart stopping second, they emerged into a grotty backstreet, looking on at a grubby street trader. "Get your rocks here....Fossils for a fiver" the trader yelled, "Who did this collection belong to?" whispered Ebenezer. The mammoth stood and pointed his trunk, a group of women were discussing the collection "I'm sorry the owners dead....sorry he didn't die sooner". A second woman replied "That Ebenezer Lapworth was an evil geologist, who didn't document his collection properly and now it's worthless". Now a whimpering wreck, Ebenezer had one final call....back to Bob Fossil's house. Inside, the mood was solemn, near the fire sat an empty chair with a rock hammer and hard hat laid on the seat. Ebenezer immediately realized that it was Trilobite Tim's chair. "A man can change his future!" Ebenezer screamed with fear and with that, the phantom mammoth faded away.



Ghost of Christmas Future

Upon opening his eyes Ebenezer Lapworth was in his own warm bed, like a whippet he flung himself free of the sheets and hung out of the window. A child carrying a lump of Schist hurried past until Ebenezer shouted "Good Sir, What day is it?" a high pitched, nervous reply came "Why.... it's C...C...C...Christmas Day". A giant grin grew on his face, the spirits came all in one night and he had not missed the big day. Ebenezer called the boy again to ask "You know the large Titanites ammonite in the shop window? Go and buy it for me boy". The boy was swamped by the Titanites, as he followed Ebenezer towards Bob Fossil's house. On the way Ebenezer donated his prized fossils to the poor and invited graduates to train in his company. When they finally reached Bob's house he was greeted with anger from Bob's wife, until she saw the size of the ammonite being delivered for them. She stood motionless with shock as Ebenezer offered a very large pay rise for Dr Bob Fossil and his fellow geoscientists. From that day forward Ebenezer became like an uncle to Trilobite Tim (who did not die) and was much loved as a generous member of the Black Country Geological Society.

*geologymatters.org.uk 12/12*



How Lapworth Kept Christmas

## **CALENDAR OF EVENTS**

**December 6-8, 2019:** Hudson, FL; Withlacoochee Rockhounds Annual Show, Veterans Memorial Park, 14333 Hicks Rd, Fri 9-5, Sat 9-5, Sun 9-5

**December 14-15, 2019:** Franklin, TN; Mid-Tennessee Gem & Mineral Society Annual Show, Williamson County Ag Expo Park, 4215 Long Lane, Sat 9-6, Sun 10-5

**December 20-22, 2019:** San Diego, CA; Gem Faire Inc Wholesale and Retail Show, Scottish Rite Center, 1895 Camino del Rio S, Fri 12-6, Sat 10-6, Sun 10-5

**January 10-12, 2020:** Globe, AZ: Annual show; Gila County Gem & Mineral Society; Gila County Fairgrounds, 900 Fairgrounds Rd.; Fri. 9-5, Sat. 9-5, Sun. 10-4

**January 18-19, 2020:** Fredericksburg, TX: Annual show; Fredericksburg Rockhounds; Lady Bird Johnson Park at the Pavilion, Hwy.16 South; Sat. 9-6, Sun. 10-4

**January 24-26, 2020:** Tyler, TX: Annual show; The East Texas Gem & Mineral Society; Tyler Rose Garden Center, 420 South Rose Park Dr.; Fri. 9-5, Sat. 10-6, Sun. 10-5

**February 8-9, 2020:** Oak Harbor, WA: 55th Annual ; Whidbey Island Gem Club; Oak Harbor Senior Center, 51 SE Jerome St.; Sat. 9-5, Sun. 9-4

**February 15-16, 2020:** Antioch, CA: Annual show; Antioch Lapidary Club; Contra Costa County Fairgrounds, 1201 West 10th Street; Sat. 10-5, Sun. 10-5

**February 22-23, 2020:** Vallejo, CA: Annual show; Vallejo Gem & Mineral Society; Solano County Fairgrounds, McCormack Hall, 900 Fairgrounds Drive; Sat. 10-5, Sun. 10-5

**March 6-8, 2020:** Newark, CA: Annual show; Mineral and Gem Society of Castro Valley; Newark Pavilion, 6430 Thornton Ave.; Fri. 10-6, Sat. 10-6, Sun. 10-5

**March 13-15, 2020:** Puyallup, WA: Wholesale and retail show; Gem Faire; Washington State Fair Events Center, 110 9th Ave SW; Fri. 12-6, Sat. 10-6, Sun. 10-5

**March 20-22, 2020:** Arden, NC: Annual show; Mountain Area Gem and Mineral Association (M.A.G.M.A.); Camp Stephens, 263 Clayton Road; Fri. 9-6, Sat. 9-6, Sun. 9-4

**March 28-29, 2020:** Janesville, WI: Annual show; Badger Lapidary & Geological Society; Craig Center - Rock County Fair Grounds, 1301 Craig Ave.; Sat. 9-5, Sun. 9-4

**April 4-5, 2020:** Columbus, OH: Annual show; Columbus Rock and Mineral Society, Licking County Rock and Mineral; Northland Performing Arts Center, 4411 Tamarack Blvd.; Sat. 10-6, Sun. 11-5

**April 17-19, 2020:** South Jordan, UT: Annual show; Wasatch Gem Society; Salt Lake County Equestrian Park and Event Center, 2100 West 11400 South; Fri. 10-6, Sat. 10-6, Sun. 10-4

**April 25-26, 2020:** Franklin, NJ: Show and sale; The Franklin-Ogdensburg Mineralogical Society, Inc. (FOMS); Littel Community Center, 12 Munsonhurst Rd.; Sat. 9-5, Sun. 10-4