

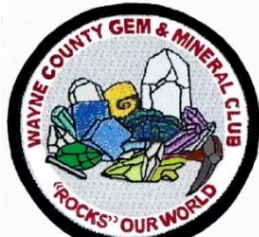
# Wayne County Gem and Mineral Club News

February, 2022

Always Looking for Places to Dig!



Stephen Mayer and  
echinoderms (page 7)



<http://www.wcgmc.org>  
**FACEBOOK link**



WCGMC visits Museum of the Earth (page 6)

## Next Club Meeting

Friday **February 11<sup>th</sup>**, 7:00 PM.

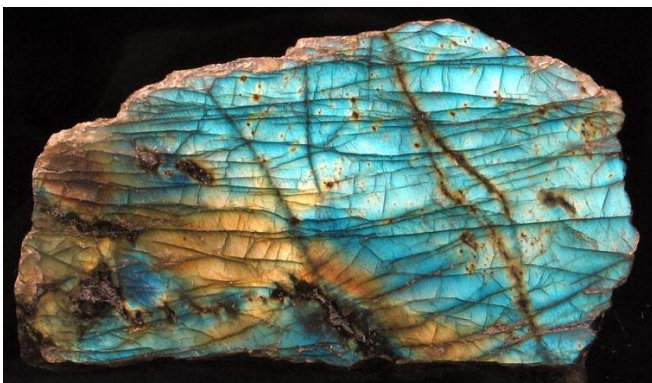
Park Presbyterian Church,  
Maple Court, Newark, NY

Program: **Labradorite**

Yes, it will be an encore presentation on all things labradorite by our Club President **James Keeler**. James is also the self-proclaimed "Lord of Labradorite". He tells us he has much more to say and show than he did in March of 2020 at our last meeting before the pandemic.

Labradorescence is a wonderful play of colors exhibited by calcium-rich plagioclase that is caused by internal structures that selectively reflect certain colors. But, there is much more to it than that.

Be sure to bring your personal pieces of iridescent feldspar or other chatoyant minerals to show.



Polished labradorite from Madagascar.  
*from Wikipedia entry on labradorescence*

## Saturday Club Workshop

**February 12<sup>th</sup>**

**(10:00 AM until mid-afternoon)**

Where: 6676 E. Port Bay Rd, Wolcott, NY

Eye protection is required.

Training on equipment is available.

\$5/adult to offset maintenance costs.



Linda's sphere is fluorescent scapolite from  
Rose Road in Pitcairn,, New York.

Workshop photos by Heidi Morgenstern

## President's Message

**James  
Keeler**



Here we are in the middle of winter's cold grip with frozen ground and all of the Earth's treasures in the Northeast buried in snow. But that hasn't stopped the club from marching onward! Despite the uptick in COVID cases moving us back into mandatory mask

wearing during indoor gatherings, we still had a good turnout for January's meeting where Stephen educated us about many aspects of echinoderms (including some fascinating anatomical information we didn't know that we were missing out on!) A number of members came out to our fantastic workshop to do some cutting, polishing, sphere making, and conversing the next day as well.



**Can you see the green chrome tremolite that I am loading into the saw at the workshop?**

We also had a solid turn out of members willing to brave the near-zero temperatures on the 29th and meet up for an enjoyable and educational visit to the Museum of the Earth in Ithaca. Overall, I'd say we had a great amount of participation and activity for the middle of winter!

I know some of our members have snuck off to warmer climates while the rest of us are freezing in western NY, but hopefully they'll have tales of the rockhounding (or fossicking, as they say in Australia) to tell us when they return. If anyone is hitting up Tucson, bring some goodies back for the rest of us. Or, at least a trip report and lots of photos so those of us who haven't been lucky enough to go can share in your experience!

I don't know about everyone else, but I'm already looking forward to opening day at Ace of Diamonds and the beginning of the club's field trip season since it means warmer weather, thawed ground, and the joys of digging in the dirt with our fellow rockhounds. Speaking of field trip season, Jeff has volunteered to lead us on one trip this summer, Stephen will be leading some fossil digs, and I'll be organizing at least one dig; but if anyone else

wants to jump in and lead a trip, please feel free to volunteer. I'll share some tips and help guide you in the process just like I am with Jeff, so don't be afraid to try it out - it's the best way to make sure a trip to that one spot you always wanted to visit happens.

At our February 11th meeting I will share a revised version of the presentation on labradorite I gave just before the pandemic. I'll explain the peculiarities of my favorite stone that result in the unique flash it exhibits. To make sure it's not boring, I will have a lot of pictures and also bring my favorite specimens along for all to see. It'll be worth having to wear a mask to attend, I promise.

Finally, it is not too early to mention GemFest. We have started planning for this year's event when we will be back in the Canandaigua Civic Center after two missed years. We will soon be contacting our dealers and planning our club activities. We'll need all hands on deck this spring to plan and then at the event itself on June 4<sup>th</sup> and 5<sup>th</sup>.

Stay warm, and I look forward to seeing as many of you as are comfortable attending Friday the 11<sup>th</sup>.

### More workshop photos by Heidi Morgenstern



**Brody**



**Rich**



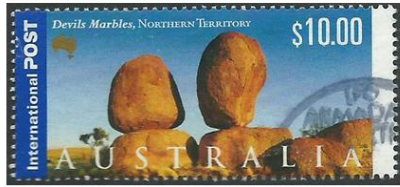
**Bob**

**Glenn**



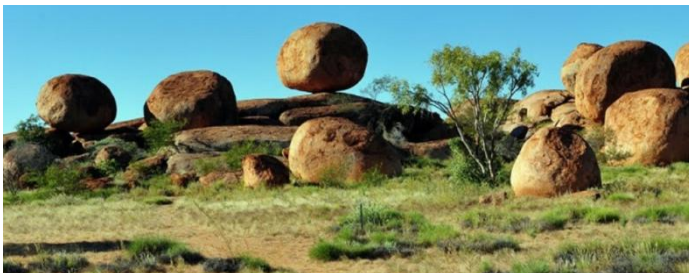
## What is a nubbin?

by Fred Haynes



Do you know what a nubbin is? In full disclosure I had not heard the term either until I encountered it a couple of months ago in a Facebook Geology Group that I follow. Nubbin is a geomorphic term. *Geomorphology is the study of landforms and their relation to geologic processes and structures.* In short, nubbins are small, gently-sloped hills with a bedrock core that are dotted with erosionally-exposed, rounded, residual blocks. They are typically made up of granite.

There are nubbins in the southwestern United States and in the arid regions of Namibia and South Africa, but perhaps the world's most famous nubbins are in a protected area in the Northern Territory of Australia called Devil's Marbles Conservation Reserve. The large rounded boulders strewn across a low hill in the Australian desert are referred to as Karlu Karlu by the aboriginal owners of the land, who place great cultural and spiritual significance to the granite monoliths. In 2000, Australia featured the Devil's Marbles on the postage stamp shown in the title box. To my knowledge this is the only postage stamp depicting a nubbin!



**Devil's Marbles Conservation Reserve, Australia.**

from [Uluru Tours Website](http://UluruToursWebsite.com), Siteseeing Australia

It was said by Australian explorer John Ross, upon discovering the remote region in 1870, that it appears that the "the devil himself emptied his bag of marbles around the place". But geologists have a

slightly different explanation for how the unique landform was created. Referring to the geologic diagram from [Wikipedia](http://Wikipedia) at the base of this page:

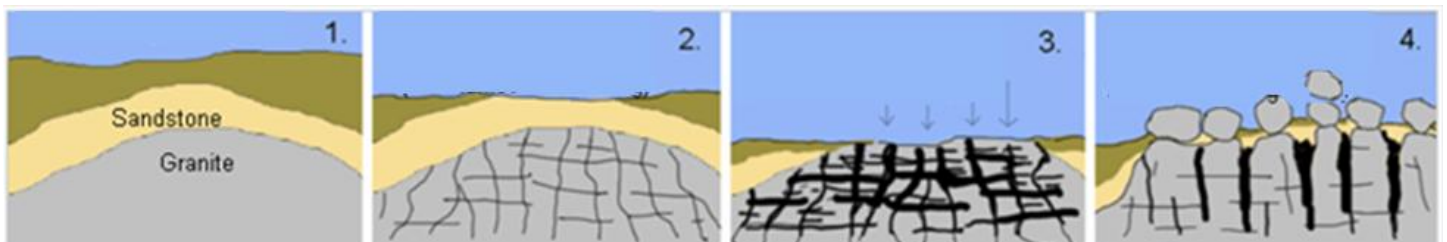
- 1) About 1700 million years ago, a granitic magma intruded an even older sedimentary sandstone unit. *For reference this is 600 million years older than the 1.1 billion year old Adirondack Mountains we call old.*
- 2) As the granite cooled, pressures and stresses within the Australian continental plate caused cracks (called joints) to develop at right angles. Slowly and over hundreds of millions of years the overlying rocks were eroded and the granite came closer to the surface.
- 3) Groundwater filtered down the joints, converting some of the feldspars in the granite to clay. The weathering process was helped by the warm, humid climate. Weathering was greatest at the corners of the blocks where surfaces were exposed.
- 4) Eventually, the overlying rocks were eroded away and the granite was exposed. The softer weathered granite at the edges of the blocks was washed away leaving boulders perched on one another and strewn across the rock platform. A nubbin was born!



Too bad this one broke, Glenn, it would have made one heck of a polished sphere.

### Reference:

Withers, P.C., 2000, Overview of granite outcrops in western Australia, J. of the Royal Society of Western Australia, v. 83, p. 103-108.





We all visit the Lake Ontario shoreline to look for naturally tumbled rocks of all sizes and composition. We usually do this on nice spring, summer or fall days which don't require gloves and hats and all that winter apparel. But have you ever visited in the winter in search of ice boulders?

I cannot find any evidence that this phenomenon has graced the Wayne County shoreline, but there is really no reason it could not. Ice boulders form when surface ice breaks up and pieces are jostled by wind-driven waves. They grow when lake water freezes on their surfaces. Their formation requires cold temperatures, but not too cold, and modest, consistent winds to keep the ice balls moving around in the near-shore wave zone. When the face of an ice boulder is hit by a wave of water, it freezes in the cold air, getting just a bit larger in size. With continued jostling they can be effectively tumbled all the while accumulating more ice on their surfaces.

So where are they found? Some of the more famous ice boulders have been documented on the Finland side of the Gulf of Bothnia separating Sweden and

Finland (Mattila, 2019) and north of the Arctic Circle in the Gulf of Ob in northwest Siberia (Bychenkov, 2016). In one remarkable Russian occurrence in 2016, an 11 mile stretch of the Arctic Ocean coastline was covered with the icy spheres. Some of them were as small as tennis balls, but others were bigger than basketballs.

But how about closer to home: have ice boulders been observed on the Great Lakes? The answer is yes; in fact during the final week of January this year ice boulders were observed on Lake Michigan just south of Sleeping Bear Dunes National Seashore in Benzie County (Gordon, 2022). Slushy ice along the shoreline was broken up when winds picked up. With temperatures just below freezing, layer upon layer of new ice formed and the ice balls grew.

So, which of us is going to be the first to spot ice boulders at Chimney Bluffs or Whistlewood Park or Sodus Bay? Make sure you bring your camera, because there isn't any other way to collect them.

#### References:

Bychenkov, S., 2016, Giant snowballs appear on Russian beach in Siberia, BBC News, November 5, 2016, <https://www.bbc.com/news/world-europe-37883003>

Gordon, L., 2022, Giant balls of ice are washing up on Lake Michigan shores, <https://wkfr.com/giant-ice-ball-lake-michigan/>, January 26, 2022

Mattila, R., 2019, "Ice eggs" cover Finland beach in rare weather event, BBC News online November 7, 2019: <https://www.bbc.com/news/world-europe-50338447>



Finland (Mattila, 2019)



Siberia (Bychenkov, 2016)



Lake Michigan (Gordon, 2022)



## A Special Trilobite by Stephen Mayer

The requirement for me to purchase a fossil is that I will never be able to collect it myself. That is exactly the case for this very special trilobite.



In the Ordovician, an inland sea formed in what is now Eastern Europe. Over a dozen trilobite species of the genus *Asaphus* developed in this sea and many had long periscope-like eyestalks. This suggests increased turbidity and/or some sort of selective pressure leading these trilobites to bury themselves in the substrate up to their eyes. They may have been looking out for danger or even prey. My new acquisition is an *Asaphus kowalewski* from the St. Petersburg region of Russia. *A. kowalewski* lived during the Middle Ordovician, some 465 million years ago, and my specimen was collected from the Aseri Horizon exposed along the Volkhov River.

The original work on the *Asaphus* trilobites of this region was done by N. Lawrow in 1856 and published in the "Negotiations of the Imperial Mineralogical Society of St. Petersburg". I am very happy to own this unique Ordovician trilobite.

**Editor's Note:** The Åland Islands featured an *Asaphus* trilobite on a postage stamp in 1996, but the genus they depicted lacked the long eyestalks that Stephen's *Asaphus kowalewski* has.



## Sand Hoodoos by Fred Haynes



Here is another Great Lakes winter phenomena to be on the lookout for along Lake Ontario's shoreline, except this time it involves frozen sand and not ice eggs (see page 4). Lake Michigan may be the home of these recent natural sand spirals (referred to as sand hoodoos), but it is not unreasonable to think the same conditions might develop along Lake Ontario. We certainly have the sand, the freezing temperatures, and the wind action that is required to form these intricate sand castles. However, the water content in the sand, the freezing temperatures, and the wind all have to interact just perfectly for this style of erosion to occur.

The 6-12" tall natural sand sculptures in these pictures are from Tiscournia Beach in front of the pier leading to St. Joseph's lighthouse. Both photographs were taken on January 8, 2022 by Troy Horvath and published on the St Joseph's Lighthouse-Tiscournia Beach Facebook page. Great Lakes sand hoodoos like this are created when frozen, water-saturated beach sand begins to thaw and then is whipped by high winds (40-50mph) accompanied by a rapid drop of temperature to single digits. This is not an everyday occurrence, but it is stunning when it happens. Sand hoodoos appear to be spherical, but they are not rounded on all sides. The down-wind side is usually more pointed, something to keep in mind when photographing them (Horvath, 2022).





## Splendid Sands Calendar

February 2022

Ngapali Beach, Bay of Bengal,  
Rakhine State, Myanmar



Photo by Leo Kenney

by Leo Kenney, Kate Clover & Carol Hopper Brill

On the Bay of Bengal, this stretch of shoreline is Myanmar's premier beach destination with sand reflecting recent reef development. The coast features resorts, traditional fishing villages and a 19<sup>th</sup> century standing Buddha.

Most dramatic here are bits of textured mollusk shells. Bivalve fragments include large sections with brown ribs or zigzags, the pink chunk, pink and blue shards, and the triangular brown shell at 3 o'clock which contains a foram and octocoral spicule. The white and gray rectangle with black knobs is a snail shell. There are other snail bits scattered about including the small striped tan spire above and right of the black and white striped snail, a broken white snail at 1 o'clock, and a brown and white swirled snail at 10 o'clock.

The white open spire at 1 o'clock, however, may be the fragile internal shell of *Spirula*, a minute pelagic cephalopod. Other grains include tan and purple urchin spines, a disc-shaped foram on the edge at 6 o'clock, worn chunks of reef-building corals along the top edge at 11 and 1 o'clock, and cream-colored spindle-shaped octocoral spicules.



The Museum of the Earth in Ithaca is a wonderful place to spend a couple of hours looking at fossils and learning about the evolution of life on our wonderful planet. With rooms dedicated to the various geologic periods, the museum walks the visitor from the Precambrian to the Quaternary discussing the creatures that roamed the earth and swam in the oceans during each major time period. They do this with fossils, educational exhibits, and short videos. WCGMC visited on Saturday January 29<sup>th</sup>. We all learn something each and every time we make the one hour trip south to visit.



**Stephen Mayer (under the big yellow arrow) tells us about "Life in an ancient sea" during the Devonian Period.** Photo by Teresa Ferris, who also captured your editor (the guy in the Norwegian sweater with the bald spot) trying his best to be a photo journalist.



**The Museum acquired this paper mâché *Stegasaurus* in 2015 from the Smithsonian.** It was constructed almost 120 years ago for a display at the 1904 World's Fair in St. Louis.



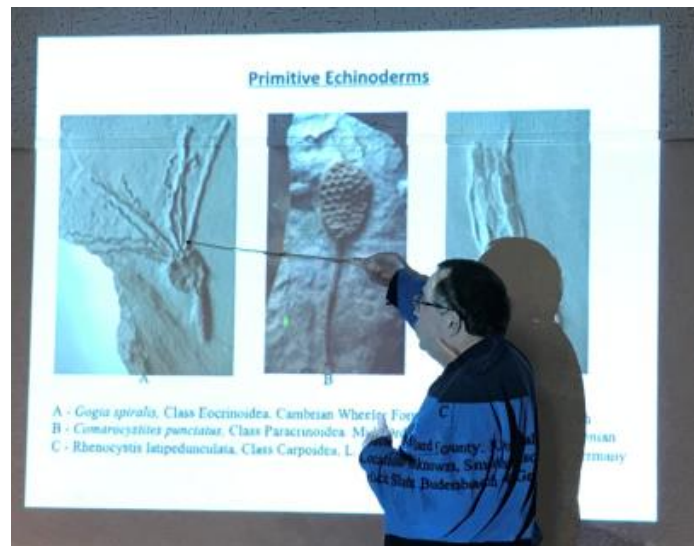
# Echinoderms

Our January club meeting featured echinoderms. Stephen Mayer's long-awaited, twice-postponed discussion of this unique phylum of invertebrates was as enjoyable as it was educational. We all know about crinoids and starfish and their unique five-fold symmetry, but Stephen introduced those present to a host of other important genera of echinoderms.

Starting with the first appearance of Eocrinoidea and Carpoidea in the Cambrian Period more than 500 million years ago, Stephen walked us through the appearance of edrioasteroids in the Ordovician and cystoids in the Silurian, before reaching the Devonian and the crinoids that we are more familiar with in western New York State. Focusing on the creature's morphology, Stephen explained the functionality of all the various parts of a crinoid from the holdfast at the base, the plates leading up the stem to the calyx, and the filter-feeding arms at the top.



One of Stephen's prized personal finds, a *Megistocrinus depressus* from the Deep Run shale Member along Seneca Lake.



The earliest echinoderms from the Cambrian Period and our presenter, Stephen Mayer.

And if his slide presentation was not enough to want us to get out into the field to look for our own specimens, he brought along some from his collection that included almost all the major echinoderm genus. We are certainly fortunate to have a paleontologist among our active members to share his knowledge about all the fossils we find in the field.

But that was not all. Kathleen Cappon brought some modern echinoderm shells and body parts to share. Most were found in Florida during her recent visits there. All in all it was a fine fossil night for all present. We'll have another fossil night in the spring where everyone can actually hunt for fossils themselves right there in the church basement.



A few modern day echinoids that Kathleen Cappon has collected in Florida, including sand dollars and sea urchins.

## Wayne County Gem & Mineral Contacts

### ELECTED OFFICERS

President – James Keeler  
[jamesrocks\(at\)keeler.com](mailto:jamesrocks(at)keeler.com)  
Vice-President – Holly Woodworth  
[autum14513\(at\)yahoo.com](mailto:autum14513(at)yahoo.com)  
Secretary – Beth Webster  
Treasurer - Bill Lesniak

### Board of Directors

Bob Linderbery  
Heidi Morgenstern  
Karen Wilkins  
Ed Smith

Past President – Linda Schmidtgal

Visit us on Facebook:

<https://www.facebook.com/groups/1675855046010058/>

### APPOINTED POSITIONS

Bill Chapman – Field Trip Chair  
Stephen Mayer - Fossil Field Trip Leader

Fred Haynes – Newsletter Editor  
[fredmhaynes55\(at\)gmail.com](mailto:fredmhaynes55(at)gmail.com)

Bill Lesniak – Website Coordinator  
Glenn Weiler – Workshop Coordinator

Linda Schmidtgal – Collection Curator

Fred Haynes – Facebook Administrator  
Jim Rienhardt – Sand Chapter

Club meets 2<sup>nd</sup> Friday of each month starting in Sept.  
Social meeting at 6:30 PM Regular meeting at 7:00 PM  
Park Presbyterian Church, Maple Court, Newark, NY

Website – <http://www.wcgmc.org/>

Dues are only \$15 individual or \$20 family for a full season of fun. Renewal is in October. Send to:

**WCGMC, P.O. Box 4, Newark, NY 14513**

