

August 2021



# OCMS SHALE MAIL



**Welcome to our 2<sup>nd</sup> hybrid Meeting Friday  
August 13<sup>th</sup>, 2021 at 6:30 pm!**

If your joining us in-person see you at: 81 Laroe Rd Chester, NY (Town of Chester Recreation Senior Center), (From KINGS HWY, Turn left on Laroe Rd by UPS office building)

**If your joining us Online see you on Zoom.**

**SEE THE REST OF YOU AT THE MEETING!**



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## Mailing Address:

254 Rt. 17K, Suite 204, Newburgh, NY 12550-8300

## Minutes of the Meeting!

**July 9<sup>th</sup>, 2021.**

**Business Meeting:** Mike Tedford brought the meeting to order on July 9<sup>th</sup>. The April 9<sup>th</sup> and May 14<sup>th</sup> Minutes were approved as written in the Shale Mail.

**Treasurer's report:** The report was read by Ron. Looked good, accepted and approved.

**Programs:** There will be no speaker at our September meeting due to our annual BBQ which is scheduled for September 11<sup>th</sup> see page 4.

**Show Report:** Mike gave special thanks to everyone who helped with the show. Over 50 vendors were there and over 500 people attended per day.

**Membership Report:** A few of the new members that signed-up at the show attended tonight's meeting and Mike welcomed them and thanked them for coming. We look forward to meeting all the new members at our next meeting and again at our club BBQ in September.

**Field Trips:** see page 4

**Shale Mail Report:** I am looking for articles from members &/or Officers on any topic related to our club.

**Old Business:** N/A

**New Business:** N/A

Adjourn business meeting: Motion and accepted.

## President's Message!

**Welcome** OCMSNY members and New members to our live meetings at the senior center. We are trying a hybrid zoom presentation also for members unable to attend. We have plenty of room for social distancing and our next meeting will feature speaker Doc Bayne with another entertaining presentation. We are also interested in planning field trips, or other activities according to members' interests.

Please note our September meeting will be the **SATURDAY** following Labor Day. The pavilion there has a kitchen and barbecue. Horseshoe pits and sports fields are there also. Please sign up for what side dish, salad or desert you might bring to augment the OCMS-provided ribs, burgers & dogs.

**08/13/2021** Meeting, Senior Center

**09/11/2021** Rock Barbecue at Hansen Park Pavilion, Westtown ,NOT Friday!!!

**10/08/2021** Meeting, Senior Center

**11/12/2021** Meeting, Senior Center

**12/10/2021** Meeting, Holiday Pot Luck Dinner and Mineral "Chinese auction "



# Join Us For Our Second Ever Hybrid Meeting!

*Here is the Zoom link for those that can't make it in person.*

**Topic:** Orange County Mineral Society Zoom Meeting

**Time:** Aug 13<sup>th</sup>, 2021 06:30 PM Eastern Time (US and Canada)

**[Join Zoom Meeting:](#)**

**Meeting ID: 862 6634 0710**

**Passcode: 887277**

**One tap mobile**

**+19292056099,,86266340710#,,,,\*887277# US (New York)**

**+13017158592,,86266340710#,,,,\*887277# US (Washington DC)**

**Dial by your location**

**+1 929 205 6099 US (New York)**

**+1 301 715 8592 US (Washington DC)**

**+1 312 626 6799 US (Chicago)**

**+1 669 900 6833 US (San Jose)**

**+1 253 215 8782 US (Tacoma)**

**+1 346 248 7799 US (Houston)**

**Meeting ID: 862 6634 0710**

**Passcode: 887277**

**Find your local number: <https://us02web.zoom.us/j/86266340710>**

## *Chain that saved the Colonies*

To stop the British invasion of the New England Colonies During the American Revolution, Peter Townsend manufactured a great chain for the Continental Army at Sterling Forest. It was placed across the Hudson River at West Point.



Please join Doc Bayne for a presentation on how he discovered the forge that made the great chain in the Sterling Forest. Doc will share the history of the iron industry that started in 1736 at Sterling Forest, and how the Sterling forge was used to create the great chain that was placed across the Hudson River at West Point.

Join Doc Bayne for an eye-opening lecture and power point presentation on this historic event!

# Field Trips???

For those of you who were at the meeting on July 9<sup>th</sup> you know that Mike Tedford totally gave me the idea for this article. In fact, I would go so far as to say I stole many of his ideas! Thanks Mike!

OK so let's get to the nitty gritty of what the heck I am talking about? For the past couple of years we have been in rock hound hell! Yes, there were the masks so we could not breathe the home quarantine, heaven for bid should we cross state lines to find a rock but worst of all the quarry's closed. They even had the audacity to shut down the gem and mineral shows.



Needless to say we were literally between a rock and a hard place. The only place I found a new specimen was in my basement. I put the specimen down there years ago and had totally forgotten about it. So when I found it sitting there it was like finding a brand new specimen to add to my collection. Anyway I am getting way off track!

Back to field trips. Would you like to attend a field trip? Collect your own specimens. How far would you drive to go collecting? Would you drive 50 miles? 100 miles? 200 miles? Would you drive to another state or even country like Canada? Perhaps visit Bancroft Ontario when the Gemboree is on? That way you can kill two birds with one stone. Visit the show and collect specimens too!



Do you know collecting sites we could visit? Would you like to lead a trip? What do you like to collect? Fossils? Minerals? Perhaps you don't get around like you used to and need easy to access sites.

There are other options too. Do you know of a place to collect that is open to the public? Grab a club member, friend or the family and go on your own.

These are all very good questions right? Will you help me to compile a list of member interests? Would you send me an email with the answers to all these questions and any others you can think of to: [pacutgarnet@gmail.com](mailto:pacutgarnet@gmail.com)? Even if you don't want to go on a field trip at all, send me that reply. I will take the information and create a document so we can see just where our interests lie as a club.

If you go on a field trip with the club or on your own please take a few pictures and write-up your adventure for me to put in our newsletter.



# Rock BBQ Meeting 2021

As we try to get some normalcy in this time of loon-icy our Rock BBQ Meeting is on! Yes, that's right it is scheduled for September 11<sup>th</sup>. I do hope to see all our members for this big social event! Get out of the house for some good food and great conversation with your fellow OCMS members!

If you plan on attending, please **email Ron** at: [rn33@optimum.net](mailto:rn33@optimum.net) to let him know how many in your party will be attending as well as what dish you will bring with you.

Item suggestions are as follows:

- Potato Salad
- Mixed salad
- Chile
- ice
- Bottled water
- Macaroni salad
- Fruits or fruit salad
- Vegetable tray
- Assorted canned soda
- Or your personal specialty



The **club will supply** all the meats, condiments, plates, forks, spoons, napkins, charcoal and the lighter.

Last Year we had a small attendance but everyone had a great time! Let's make history this year for the best Rock BBQ yet!



**When:** September 11, 2021

**Where:** Hansen Memorial Park

For those of you with **GPS** the coordinates are:

**Latitude:** 41.3347222

**Longitude:** -74.5688889

**GNIS ID:** 2440154

**Time:** Noon - 5 pm although you can show up a little early to help with set-up

**You must be a member in good standing to attend for insurance purposes. Or, sign-up at the BBQ**

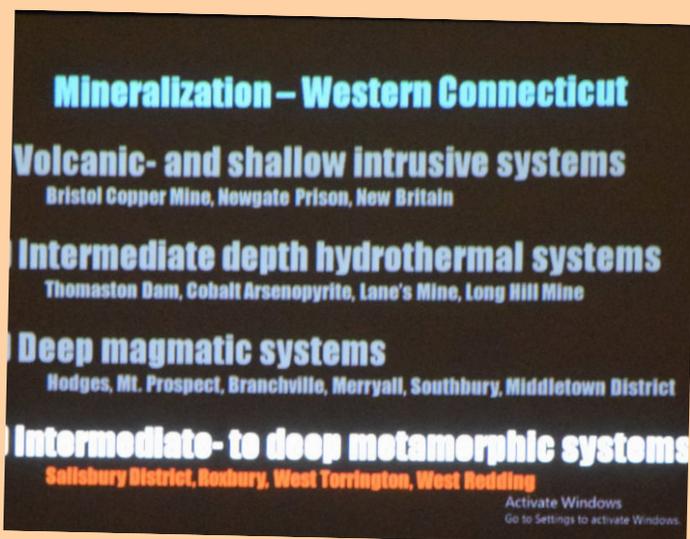


## History of Mining and Their Minerals - Western Connecticut

Charles Merguerian gave our first hybrid presentation from the senior center July 9<sup>th</sup>. He did talk to us about some of his own experiences in Western Connecticut however, we can't get into most of the places anymore. There are various issues and most people are afraid of being sued.

There is a rich but somewhat shady mining history in Western Connecticut. Few of the mines made money because most were stock funded. The feldspar industry was huge particularly in WW2 when the pegmatites were mined. They were not mined for the beryl, spodumine or columbine but there were looking for the feldspar. Later, they went back for the beryl in the war effort because the beryllium was a very effective strong metal for aircraft.

There are four types of mineralizations in Western Connecticut all related to the interaction of the tectonic plates in geologic time.



The 1<sup>st</sup> grouping, “Volcanic-and shallow intrusive systems” is a very shallow intrusive system of molten material affecting the surrounding rock.

The 2<sup>nd</sup> grouping, “Intermediate depth hydrothermal systems” occur when a large body of igneous rock intrudes at some depth. Ground water begins to circulate. Crystallization happens while it's still hot and that crystallization pro-

duces mineralization in the surrounding host rock.

The 3<sup>rd</sup> grouping, “Deep Magmatic Systems” is when a huge blob of igneous rock intrudes into the earth's interior. Usually its a periphery of these blobs where metals are enriched and concentrated and then deposited.

The 4<sup>th</sup> grouping, “Intermediate to deep metamorphic systems”. The process of metamorphism induces crystallization. That is just what we want for minerals. Metamorphic minerals are quite spectacular in Connecticut.

### The Mineral Environment

The volcanic environment - the best place to visualize volcanism is under water. The mid-oceanic ridges where the tectonic plates are pulling apart. As the plates pull apart molten material is added along those zones. Because the magnetic field of the earth varies through time magnetic stripping in the oceanic crust occurs. This stripping can be measured by ship born devices. What they found is a totally symmetrical pattern on either side of the mid-ocean ridge indicating that the pieces fit together at one time. That is how they know that the continents drifted apart.

If you trace the geological belts in the mid-ocean ridge of the Atlantic you will know the continents were a single land mass. That environment is interesting because there is definite interaction between chemically active sea water and chemically active molten material. It is also know the underwater smokers extrude tremendous amounts of metal in the base of the ocean, as a result pillow lava comes out on the ocean floor.

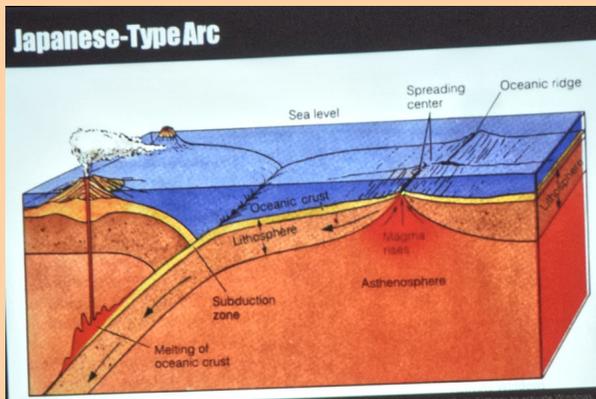
Pillows are interesting because they have glassy crusts around them, then fine grains of basaltic interiors as a result of very rapid cooling. For those of us that are interested in pillow lava Charles suggested reading the scientific paper, “Pillow Talk” so I am including it in the email.

## History of Mining and Their Minerals - Western Connecticut - cont.

Smokers are formed when the ocean crust opens up. Hot solutions come up through the crust and interact with the sea water then charge back through the crust again. On the way it scavenges things like copper, zinc and iron and then pulling them back through and it comes out in the form of a smoker. Metals are pulled from the ocean lithosphere and deposited as a dust usually oxides, hydroxides as iron and zinc layers that occur in the ocean environment.

Because the earth is not expanding there must be compensatory motion. We call this a subduction zone. When the plates come together, one plate dives beneath the other one. It produces a whole series of slices of sedimentary material that gets scraped off as the one plate goes down. That scraping motion takes huge sheets of sedimentary rock and jams them underneath one another. Later on one plate smashes into another and produces a whole series of mountain building.

The process of metamorphism is within this active trench zone but at greater depths. The plates start to melt and that is what starts to produce a lot of igneous activity.



There are two different kind of subduction zones. One is the Japanese-type arc. The subduction of ocean lithosphere produces a volcanic island chain sitting in the ocean. Then there is the angean volcanic arc. One plate dives beneath a chunk of continental crust producing an angean-

type of mountain range. Both of these took place here on the north east of North America.

Some of the coast ranges in California have uplifted subduction complex sheets of sediment (lots of material dis-articulated roped around and sheared, layers going in all different directions. The igneous activity of the earths exterior is a result of plate activity of the earth's interior. The interaction of plates, the melting of plates and sometimes those sediments that are getting sheared up in the trench sometimes those get sucked down into the melting zone depressing the melting temperatures. Putting weird chemicals into the mix. Those weird chemicals are what produces the minerals we like to collect.

When the large blob of igneous rock cools the common minerals come out first. The kerotines, the hornblendes they all start to crystallize together then you have quartz. After all those chemicals are extracted from the magma what's left is a juice of incompatible elements. These elements don't fit into the common minerals and come up late in veins, in the border zones.

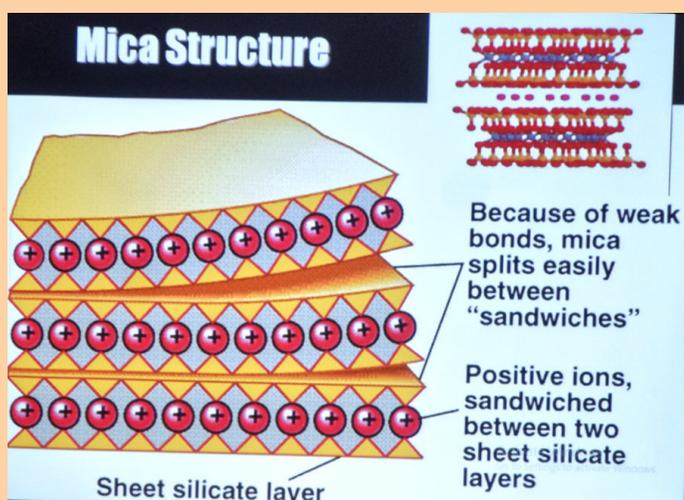
If the surrounding rocks are carbonates it's really cool because carbonates are really reactive, you can get anything. Carbonates are really interesting because there can be all kinds of wild chemical reactions taking place. When the carbonate minerals and hot water get dissolved in the hot fluids and crystallize. They make for great specimens. Ground water comes down along the fracture of the earth's crust(the earth's crust is entirely fractured because if it wasn't there would be no drinking water). That cool water drops down, is heated by the cooling magma chamber which takes about 50 million years. This is a long time for water interaction and produces oxide zones and sulfur zones creating all kinds of interesting mineralogy.

The trench wall is where the shearing takes place. Sediments are dragged down to a

## History of Mining and Their Minerals - Western Connecticut - cont.

Depth. This is the environment where metamorphism takes place and in turn stuff like slate, gneiss, schist and migmatite are born. If slate is dragged down to lower levels it will produce schist because of the growth of new minerals particularly mica.

Metamorphic rocks are typically layered and are highly foliated. Tremendous direct pressure in the environment aligns the minerals producing not only new minerals but textures that geologists get a charge out of.



There is interesting mineralization at the Hartford Basin here you'll find both sedimentary and igneous rocks. Berkshire has iron deposits although most are found at Stock Bridge, Marlboro and the woodboro formations. There are also a ton of small small formations throughout the Hartford formation.

Copper was discovered at the Simsbury Copper Mine in colonial times. They built a prison over it so they could use the prisoners to mine it, but only until one escaped. Other minerals there are malachite, chrysacola and wernerite.

The faults along rt 9 chopped up the lava. Looking through the rubble at the side of the road you may find micromineral of siderite,

barite, iron carbonate, malachite and malachite with quartz.

The Colbalt Mine is south and east of Portland Connecticut. A unique deposit of pyrite was found there with an important element of gold. They tested the hair of the people that lived in the area. Their hair showed traces of gold which showed that it was part of the biochemical system.

The Long Hill Tungsten Mine was a very large operation in Trumbull Connecticut. It is a state park that can be visited. They may even allow some collecting there for topaz, scheelite, pyrite, chlorophane and wulfenite. Chlorophane is a very unusual form. It's a type of fluorite that shows an unusual property called thermal luminescence. If you place it in hot water it fluoresces. The most amazing find from the latest construction of the industrial park was emerald.

Charles suggested we look at a paper he wrote with Harold Moritz in 2015 that goes along with this lecture so I am sending it along with this newsletter.

The Hodges Nickel Mine is on a north east corner of a large intrusion of olivine and blend ridden rock. It has intruded along Camerons Mark. Previous investigations showed the Hodges pluton was a long octopus shaped mass with tentacles extending down. Charles mapping beheaded the octopus as the tentacles were actually amphibolites within the horn and the head of the octopus was a separate intrusion that was younger than the amphibolites. There are beautiful big garnets that are grown in the amphibolites. The interior of the Hodges complex is a magmatic intrusive rich in nickel. These rocks are derived from the earth's mantle and intruded into the earth's lithosphere. The intrusion dates back 450 million years ago.

On behalf of the OCMS, I would like to thank Charles For this informative lecture!

# Canadian Fossils Discovered

## ***Canadian geologist believes first sign of animal life may be a fossilized sponge***

The earliest fossil records for most animals dates back to as early as 541 million years ago, but a new paper from the journal Nature claims that sponge fossils found in northwestern Canada could be 350 million years older.

A billion years ago, areas of northwestern Canada were known to be filled with marine life, unlike today where large mountainous areas define the region. The sponges found were likely preserved in mineral sediment, according to the paper.

Elizabeth Turner, the geologist who discovered the rocks in the Canadian region had been excavating in the area only accessible by helicopter since the 1980s. Turner was able to find the sponge fossil within thin sections of rock containing three-dimensional structures.



This undated photo provided by Elizabeth Turner, Laurentian University, shows a field location in Northwest Territories, Canada. Canadian geologist Turner may have found the earliest fossil record of animal life on Earth in the area shown.

The layered rock dates the samples as being

around 890 million years old. The current oldest undisputed sponge fossil found is 350 million years younger.

Scientists believe that life on Earth began 3.7 billion years ago and that animals appeared significantly later.

Though scientists remain skeptical of any animal dating back nearly a billion years ago, if it is proven, it would show that the first animals evolved before oxygen was prevalent in the Earth's atmosphere.

Written By: Brandon Sapienza of the Daily News

## ***Sponge-like fossils may be earliest sign of animal life: study***

***The fossils predate by about 350 million years what had been the oldest-known sponge fossils.***

Fossils found in rugged mountainous terrain in Canada's Northwest Territories may give a glimpse at the humble dawn of animal life on Earth – sea sponges that inhabited primordial reefs built by bacteria roughly 890 million years ago.

A Canadian researcher said on Wednesday the fossils, dating to a time called the Neoproterozoic Period, appear to show distinctive microstructures from the body of a sea sponge built similarly to a species living today called the Mediterranean bath sponge, or *Spongia officinalis*.

If this interpretation is correct, these would be the oldest fossils of animal life by roughly 300 million years.

“The earliest animals to emerge evolutionarily were probably sponge-like. This is not surprising given that sponges are the most basic type of animal both today and in the fossil record,” said geologist Elizabeth Turner of Laurentian Univer-

# Canadian Fossils Discovered - cont.

sity in Canada, who conducted the study published in the journal Nature.

The Earth formed more than 4.5 billion years ago. The first life forms were bacteria-like single-celled marine organisms that arose hundreds of millions of years later. Complex life



evolved relatively late in Earth's history.

The first appearance of rudimentary animal life has been a much-debated topic in terms of its timing and form. An enigmatic ribbed, pancake-shaped organism called Dickinsonia known from fossils dating to roughly 575 million years ago has been considered a candidate as the earliest-known animal.

Turner said she believes animals evolved much earlier than the present fossil record indicates. "The existence of a protracted back-history is not surprising, but the sheer duration of it – a few hundred million years – may be a little unexpected for some researchers," Turner said.

When people think of animals, a sponge may not immediately come to mind. But sponges – aquatic invertebrates that live fixed to the sea floor and possess soft, porous bodies with internal skeletons – are among the most successful animal groups. "They lack a nervous, digestive and circulatory system. They have an amazing water-pumping machine, produced by specialized cells, that they use to move seawater through their bodies to filter-feed," Turner said.

Some sponges have skeletons made of microscopic rods of quartz or calcite. Others have skeletons made of a tough protein called spongin that forms a complex three-dimensional meshwork supporting the animal's soft tissue. The Canadian fossils represent this latter kind, called a horny sponge. "It is the relict structure of the 3-D meshwork spongin skeleton that is preserved and that is so distinctive," Turner said.

This structure, visible under the microscope, consists of tiny tubes that branch and rejoin to form the meshwork. The body size for the sponge would have been roughly four-tenths of an inch (1 cm). Turner said the sponges appear to have lived in cavities just below the reef surface and in surface depressions.

If these fossils genuinely show a type of sponge, their age would indicate that Earth's first animals evolved before a pair of landmark events usually seen as predating animal life. One of these was the second of two episodes in the planet's history when the amount of atmospheric oxygen greatly increased, sometime between about 830 and 540 million years ago. The other was a tremendously cold time when Earth may have been encased in ice or at least partially frozen over, sometime between about 720 and 635 million years ago.

The fossils predate by about 350 million years what had been the oldest-known sponge fossils. Turner noted that genetic research indicates that sponges first appeared at approximately the time to which these fossils date.



Click the image to hear the Researchers debate whether an ancient fossil is the oldest animal yet discovered, and a new way to eavesdrop on glaciers.

Written By: Brandon Sapienza of the Daily News

# Gem Shows!

## Annual East Coast Gem & Mineral Show - 08/13 - 08/15/2021

**Start Date:** 08/13/2021

**End Date:** 08/15/2021

**Hours:** Daily 10-6, final day 10-5 (4 for wholesale)

**Contact:** Laura Delano

**Phone:** (505) 867-0425

**Venue:** Better Living Center & Young Building

**Address:** 1305 Memorial Ave., West Springfield,  
Massachusetts 01089 U.S.

**Website:** <https://xpopress.com/show/profile/1/east-coast-gem-mineral-fossil-show>

## Danbury Mineralogical Rock, Gem, and Mineral Show - 09/11/2021 - 09/12/2021

**Start Date:** 09/11/2021

**End Date:** 09/12/2021

**Hours:** Sat 10-5, Sun 10-4

**Contact:** Darlene Wimbrow

**Phone:** N/A

**Venue:** New Milford High School

**Address:** 388 Danbury Road (Rt 7)  
New Milford High School New Milford, CT 06776

**Website:** <https://danburymineralogicalsociety.weebly.com/information.html>

## NJ Mineral, Fossil, Gem & Jewelry Show - 08/18 - 08/22/2021

**Start Date:** 08/18/2021

**End Date:** 08/22/2021

**Hours:** 18<sup>th</sup> - 20<sup>th</sup> 12-8, 21<sup>st</sup> 10-7pm, 22<sup>nd</sup> 10-6

**Contact:Email:** [Russell@EonsExpos.com](mailto:Russell@EonsExpos.com)

**Phone:** N/A

**Venue:** NJ Convention & Exposition Center

**Address:** Raritan Center 97 Sunfield Ave, Edison.

**Website:** <https://nj.show/show-details/>

## NJ Fall Rock & Mineral Weekend 09/25 - 09/26/2021

**Start Date:** 09/25/2021

**End Date:** 09/26/2021

**Hours:** Sat 9:00-6:00 Sun 10:00-5:00

**Contact:** Gary Moldovany (862) 268-1596

**Venue:** Firemen's Memorial Park

**Address:** 80 Rocherty Road Lebanon

Valley Fairgrounds & Expo 137 Buckwheat Rd  
Franklin , NJ 07416, PA 17042

## Gem Miners Jubilee Gem & Jewelry Show - 08/20 - 08/22/2021

**Start Date:** 08/20/2021

**End Date:** 08/22/2021

**Hours:** Sat 9:00-6:00 Sun 10:00-5:00

**Contact:** Teresa Schwab (301) 807-9745

**Venue:** Lebanon Valley Fairgrounds & Expo

**Address:** 80 Rocherty Road Lebanon

Valley Fairgrounds & Expo Lebanon, PA 17042

**Website:** <https://www.gem-show.com/>

**Make sure the show is running  
before leaving home!**

**Protect Yourself!** Even though covid restrictions are easing up in many states don't forget the pandemic is still among us. Be vigilant about social distancing, personal hygiene and wearing face masks at these events. Some clubs are even checking temperatures at the door. If you feel ill, stay home!

**OCMS members** are covered by Society-sponsored insurance.

**OCMS Disclaimer**

*The editor and the OCMS are not responsible for the accuracy or authenticity of information in the articles accepted for publication, nor are the opinions expressed therein necessarily those of the officers of the OCMS or the editor.*



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