

Southern Maryland Rock and Mineral Club



Rock Talk



September, 2015

Message from the President

September - School is back in session, it is getting cooler and the days shorter. With any trips to the field/quarry, be prepared for rapid weather/temperature changes and watch those around you. Make safety a key point with all on every outing.

With the end of the year coming up, please start thinking of how can you as a club member can help the club prosper by sharing one's talents and experiences to others. We all have gathered some tidbits of knowledge from many of the club members around us. Beading, faceting, lapidary, flint knapping, mineral and fossil identification, geology lessons, and many other lessons surrounding the hobbies we all love. I implore all to keep this sharing of knowledge going for the expansion of our hobby base. Remember - we are looking for new officers to take the club into the future years. Elections are in a few months. If you are interested - please contact Polly or myself!!

There is a trip sponsored by the Montgomery Club to the National Limestone Quarry in Pennsylvania (<http://nationallimestonequarry.com/rockclubhome.htm>) on 26 September. Some of us have collected from the quarries this year, but with additional blasting, new material may be available. Please contact Jim White if you desire to attend. Good samples can be

found by all! If there are other sites people are interested in collecting from, contact Jim White for a possible club trip.

In this issue:	
August Meeting Summary	2
Upcoming Field Trips	2
Upcoming Shows and Events	2
EFMLS/AFMS News	3
Rocks, Minerals, and Fossils in the News	4
Green Minerals from the Mid-Atlantic Region: Epidote	6
Member's Finds	8
The 24th Annual Richmond Gem & Mineral Society Rock Sale and Swap	9

Next Meeting:
September 22, 2015@7:00 PM

Program: Microfossils: an Introduction
Timothy Foard
Refreshments:
TBD

**Clearwater Nature Center, 11000 Thrift Road,
Clinton, MD.**

AUGUST MEETING SUMMARY

Bob Davison

The Club received \$64 as their share of the proceeds from the annual auction and pot luck dinner. About 20 people attended the event. There were six sellers and nine buyers who bid on the 32 lots that were sold.

Upcoming Field Trips

*Combined (with the Gem, Lapidary, and Mineral Society of Montgomery County) at National Limestone Quarry, Mt Pleasant Mills, Pennsylvania
Saturday September 26th*

If interested, contact Jim White
at whitejs1@verizon.net.

Upcoming Shows and Events: 2015

September 26-27 –51st Annual Gem, Mineral, and Jewelry Show hosted by the Gem Cutters Guild of Baltimore. Howard County Fairgrounds, West Friendship, MD

September 26-27 Annual show, Franklin Mineral Museum, Franklin School, 50 Washington Ave, Franklin, NJ

October 3 Fall Show sponsored by the Pennsylvania Earth Sciences Association. Macungie Memorial Park, Macungie, PA.

October 17-18: 43rd Annual Gem & Mineral Show sponsored by the Bristol Gem & Mineral Club. Beals Community Center, 240 Stafford Ave; Bristol, CT.

October 24: Annual show, Treasures of the earth Gem and Jewelry shows, Rockingham County Fairgrounds, 4808 S. Valley Pike, Harrisonburg, VA

October 24: Annual "Ultraviolation" (Fluorescent mineral show) sponsored by the Rock & Mineral Club of Lower Bucks Co. First United Methodist Church, 840 Trenton Rd; Fairless Hills, PA.

October 31: Annual Show, The Rock and Mineral Club of Lower Bucks County, First United Methodist Church, 840 Trenton Rd, Fairless Hills, PA

October 24: South Penn Fall Rock Swap, hosted by the Franklin County and Central PA Rock and Mineral Clubs. South Mountain Fairgrounds 1.5 mi. W on Route 2, Arendtsville, PA

EFMLS/AFMS NEWS by Timothy Foard



The September newsletter of the AFMS recognizes AFMS rockhounds of the year.

This month's newsletter has several of the same articles present in the September EFMLS newsletter (see EFMLS box below)

In addition, there are new US postal regulations which will affect the mailing of paper copies of newsletters. There is a calendar for upcoming conventions for 2015-2016 and an advance registration form for the AFMS/SWFMS convention in Austin, TX on October 23-25..

For these and other information, visit www.amfed.org



The EFMLS Newsletter for September has suggestions by the outgoing president on ways to increase attendance at club shows and meetings. There is a call for Lapidary of the Month articles to submit for Rock and Gem Magazine. A final call for tickets for the EFMLS Endowment drawing to be held in Austin in October is also present in this newsletter. A "Safety Matters" article on the importance of setting examples of safe practices to children is included in the newsletter.

For these and other information, visit www.amfed.org.efmls

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Rocks, Minerals, and Fossils in the News

30,000,000 Year Old Fossils Wash Up On North Topsail Beach

By Katy Harris

<http://www.twcnews.com/nc/coastal/news/2015/09/17/topsail-fossil-rocks.html>

NORTH TOPSAIL BEACH--A sand restoration project at North Topsail Beach kicked up a 30,000,000 year old buried treasure. "These particular critters right here only lived in the Oligocene time period which is 30 million years ago," said Avocational Paleontologist Linda McCall.

Since March McCall has collected one ton of these fossils from a two mile stretch on North Topsail Beach. "There's oysters, there's these cool looking things we call sea biscuits which are actually sea urchins, little tiny round ones with bumps which are also sea urchins, you get some barnacles, things like that," said McCall.

Beachgoers originally thought these fossils were just rocks being dumped onto the beach, but McCall and a colleague knew they'd struck gold. "She just showed up at Town Hall and was just like, "Do you know you guys have these fossils that are showing up on the beach," said North Topsail Beach Assistant Town Manager Carin Faulkner. McCall says for the first time Paleontologists are seeing incredibly pristine fossils still displaying color. McCall says the fossils are so well preserved because a catastrophic event like a large storm killed them all at once and buried them. "There was no way that we would ever know what they looked like in life. They don't have any living relatives today and now we know what these guys looked like and that is the coolest thing ever," said McCall. The fossils are still washing up

on the beach. Beachgoers may not even realize they're walking amongst 30 million year old extinct organisms. McCall plans to take the fossils to an international convention this Fall to debut the fossils to the science world.

The 5ft-long scorpion that terrorized the seas 460 million years ago: Fossils of giant predator with 'paddles' found in Iowa

By Victoria Woollaston for MailOnline

<http://www.dailymail.co.uk/sciencetech/article-3217082/The-5ft-long-scorpion-terrorised-seas-460-million-years-ago-Fossils-giant-predator-paddles-Iowa.html>

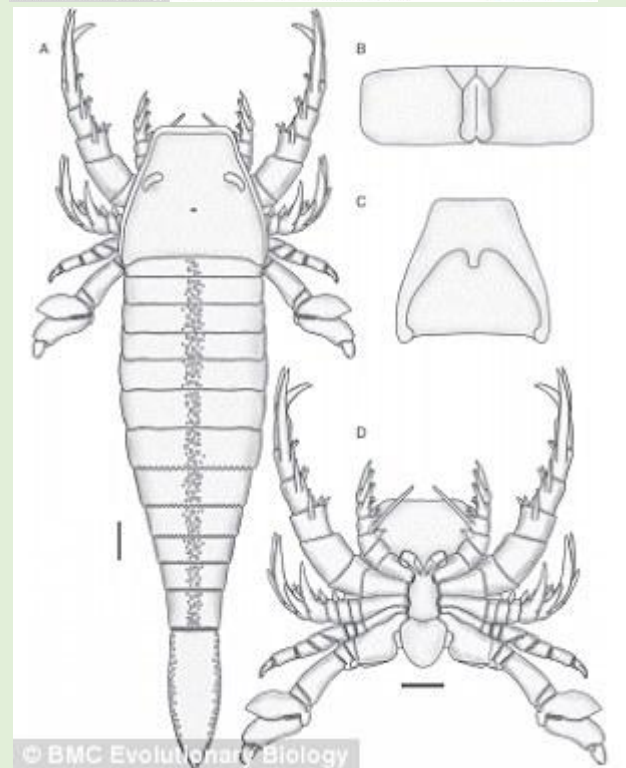
The 'fantastically preserved' fossils of the largest and oldest species of sea scorpion ever found have been unearthed in Iowa. Dating back 460 million years, the eurypterid species would have measured more than 5ft (1.5 metres) long and had unique 'paddle-shaped' legs to help it swim and dig. Its bizarre shape resembles that of the Greek warship penteconter, and the species has been described as 'Pentecopterus decorahensis'. Fossils of the largest and oldest species of sea scorpion ever found have been unearthed in Iowa. Dating back 460 million years, the eurypterid species (illustrated) would have measured more than 5ft (1.5 metres) long. Eurypterids were extinct monster-like predators that swam the seas in ancient times and are related to modern arachnids. Lead author James Lamsdell from Yale University said: "The new species is incredibly bizarre. The shape of the paddle - the leg which it would use to swim - is unique, as is the shape of the head. It's also big - over

a metre and a half long!' He added: 'Perhaps most surprising is the fantastic way it is preserved.'



'The exoskeleton is compressed on the rock but can be peeled off and studied under a microscope. 'This shows an amazing amount of detail, such as the patterns of small hairs on the legs. 'At times it seems like you are studying the shed skin of a modern animal, an incredibly exciting opportunity for any paleontologist.' More than 150 fossil fragments of the new eurypterid species were excavated from the upper layer of the Winneshiek Shale in northeastern Iowa. The location is an 89ft (27-metre thick) sandy shale located within an ancient meteorite impact crater and mostly submerged by the Upper Iowa River.

Some large body segments suggest a total length of up to 5.5 ft (1.7 metres), making Pentecopterus the largest known eurypterid from its era.



This diagram is a reconstruction of an adult *Pentecopterus decorahensis*.

More than 150 fossil fragments (selection pictured) of the new eurypterid species were excavated from the upper layer of the Winneshiek Shale in northeastern Iowa. Pentecopterus is also around 460

million years old, making it ten million years older than the previous oldest record of the eurypterid group. Due to the preservation of the fossils, the researchers were able to interpret the functions of certain body parts. The rearmost limbs, for example, include a paddle with a large surface area, and joints that appear to be locked in place to reduce flex.

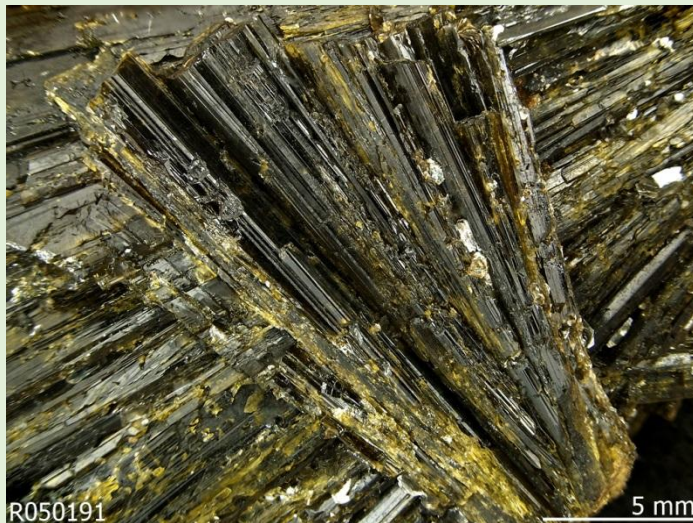
Due to the preservation of the fossils, the researchers were able to interpret the functions of certain body parts. The rearmost limbs, for example, include a paddle with a large surface area, and joints that appear to be locked in place to reduce flex (pictured). The second and third pairs of limbs may have been angled forward. This suggests that *Pentecopterus* used these paddles to either swim or dig. The second and third pairs of limbs may have been angled forward, suggesting they were involved primarily in prey capture rather than locomotion. The three rearmost pairs of limbs are shorter than the front pairs, suggesting that *Pentecopterus* may have walked on six legs rather than eight.

Meanwhile, finer structures such as scales, follicles and setae, or stiff bristles, were also distinguishable. In particular, the dense setae found on the rearmost limbs form arrangements that are similar to those seen on swimming crabs. They function to expand the surface area of the paddle during swimming, but the smaller follicle size in eurypterids suggests that the setae could have also had a sensory function. Spines are also present on some limbs and appear similar to those found on horseshoe crabs where they aid in processing food.

The fossil and findings are published in the journal *BMC Evolutionary Biology*.

Green Minerals from the Mid-Atlantic Region: Epidote

Timothy Foard



Epidote from Peru (<http://ruff.info/Epidote/R050191>)

Epidote, sometimes called pistacite, is silicate of calcium aluminum, and iron ($\text{Ca}_2\text{Al}_2(\text{Fe}^{3+}, \text{Al})(\text{Si}_3\text{O}_{12})(\text{OH})$), the ratio of iron and aluminum varies widely. Although epidote can take in a very dark green color (other colors are very rare), it is typically yellowish or pistachio-green, which is one of the identifying characteristic of this mineral. In fact, the name pistacite, refers to its color. It is a relatively hard mineral, hardness 6-7, with a vitreous luster. Its crystals, monoclinic in habit, are often elongate, with a pseudo-hexagonal cross section. It has perfect cleavage, uneven fracture, a gray or colorless streak, and a specific gravity of 3.25-3.5.

Epidote is a member of the epidote group of minerals, called sorosilicates, and includes such minerals as tanzanite and clinozoisite (both minerals lack iron). Sorosilicates are those silicates which form a with a silicon:oxygen ratio of 2:7 and appear as double tetrahedral groups. The epidote group has both the basic SiO_4 and the double tetrahedral groups.

Epidote is common and occurs in many regional metamorphic rocks, including gneiss, schists, and as

a product of contact metamorphism of limestones. Other environments where it occurs are granite pegmatites and in cavities in in basalt, where it is often associated with zeolites and calcite. It forms a solid solution with clinozoisite and it is often difficult to distinguish one from the other when both are present in the same rocks.

Some of the best crystals in the United States have been found in Alaska, Colorado, California, and Idaho. Locally, small crystals have been collected from quarries in Virginia, Maryland, and Pennsylvania.

Despite its relative abundance, gem quality epidote is rare. When it is used in jewelry, it is usually set in protected designs as in pendants, pins, or earrings because of its tendency to chip due to its perfect cleavage. Daily wear is not recommended.



Epidote pendant

(<http://www.uniquejewelryandgems.com/thumbs/CO5.jpg>)

Sources

The Audubon Society Field Guide to North American Rocks and Minerals, by Charles W. Chesterman. Published by Alfred A. Knopi, Inc., New York 1978, 607 pp.

Epidote Gemstone Information

<http://www.gemselect.com/gem-info/epidote/epidote-info.php>

Epidote

<http://en.m.wikipedia.org/wiki/Epidote>

Dana's Textbook of Mineralogy, with an Extended Treatise on Crystallography and Physical Mineralogy, by Edward Salisbury Dana. Fourth Edition, 1932. John Wiley and Sons, 851 pp.

Epidote. Mindat.org.

<http://www.mindat.org/min-1389.html>

Fleischer's Glossary of Mineral Species 2008. Malcolm E. Back and Joseph A. Mandarino. The Mineralogical Record, Inc., Tuscon, 345 pp.

Member's Finds

I found this specimen several years ago from Aquia deposits in Prince Georges County, Maryland. Top and middle photos are different views of the same specimen. For a long time, I was not able to identify the specimen. Initially I thought this was a coprolite, or fossilized excrement, but could not explain the white objects which resemble fossilized eggs. I saw what appeared to be wood fragments, but was still at a loss as to the identity of the object. Over the months I would take the specimen out of storage and examine it under magnification to get some idea as to its identity. I was fairly certain the specimen is of animal origin, despite the presence of the small amount of the fossilized wood.





It was not until the discovery of the second specimen, in the bottom photo, years later, at the same locality, that I was able to recognize the fossil. Both fossils are specimens of Toredo wood. Toredo, or shipworms are a type of mollusk (shellfish) which bore into wood floating in salt water. The first specimen is badly worn, and contains mostly the cast of the burrows, which resembles coprolites. The white egg-like objects are what left of the shell material, which lined the tunnel when the animal was alive. This is more clearly seen in the second specimen. Toredo wood is the North Dakota state fossil.



Collected any interesting specimens? Send a photo or two to the editor at bmorebugman@yahoo.com for inclusion in the next issue of Rock Talk.



The Southern Maryland Rock and Mineral Club

Meetings take place on the 4th Tuesday of each month at 7:00pm

Clearwater Nature Center, 11000 Thrift Road, Clinton, MD.

For More information, call:

(301) 297-4575

We're on the web:

SMRMC.org

The 24th Annual Richmond Gem & Mineral Society Rock Sale and Swap**Saturday, November 14, 2015 9:00 a.m. - 3:00 p.m.**

The Rock Sale/Swap is indoors (overflow will be in the parking lot), so come rain or shine! Open to children and adults (from novice to expert) to purchase or trade (swap) mineral, gem, fossil, shell, and lapidary specimens. Ridge Baptist Church Meeting Hall 1515 East Ridge Road, Richmond, VA 23229

- Doors open at 7:00 a.m. for inside setup. Inside table fees are \$20.00 per table (regardless of 6' or 8' table size) and are limited (44 total tables). RGMS will provide all interior tables which are a mix of 6' and 8'.
- Parking lot spaces are \$20 for approximately 6 spaces and you must provide your own tables.
- Everyone please bring your own table coverings. To register for a table(s) or exterior space, please download the registration form and mail (with fee) to the address listed on the form. We suggest a 2 table limit. Table reservations are based on "first received, first assigned".

ALL PARTICIPANTS - PLEASE LABEL YOUR MATERIAL Please have at least one flat of good material specifically labeled for children and novice collectors for swap (trade) or give away. Promote the hobby!

To defray sale/swap costs, RGMA asks that each seller/swapper provide a least one nice specimen or similar item for our annual auction. Please no junk! Food and beverages are available at near-by restaurants. Restroom facilities are available in the building.

FOR MORE INFORMATION CONTACT: Andy Dietz (dietziv@yahoo.com) or Bob Simon (dino_safaris@yahoo.com).

DIRECTIONS: Since 1998 the swap has been at this location in Henrico County near Regency Square Mall and Douglas S. Freeman High School. North or South of Richmond, Virginia: Use I-95 to Exit 79 to I-64 West (North of Richmond City). Leave I-64 at Exit 181A (South) on Parham Road. Proceed south on Parham Road for about 1.5 miles and **TURN LEFT ONTO EAST RIDGE ROAD.** (A right turn at this intersection takes you onto Quioccasin Road to Regency Square Mall). The Ridge Baptist Church and Meeting Hall are 400 feet on the right, across from Kroger's Grocery. **MEETING HALL IS THE WHITE BUILDING** at the rear of the parking lot. There is ample parking in front of the Meeting Hall. Swap signs will mark both entrances. East or West of Richmond, Virginia Use I-64 to Exit 181A (South) and follow the directions above.

Richmond Gem and Mineral Society (RGMS) 24th Annual Sale and Swap

REGISTRATION FORM

NAME _____

ADDRESS EMAIL ADDRESS _____

TELEPHONE NUMBER _____

NUMBER OF TABLES (\$20 EACH) _____

PLEASE MAKE CHECKS OUT TO -- RICHMOND GEM AND MINERAL SOCIETY (RGMS)

MAIL REGISTRATION FORM WITH FEE TO -- ANDY DIETZ 12417 GLEN CARRIE ROAD ASHLAND, VA
23005