



The Rostrum

The Newsletter of the Maryland Geological Society
Baltimore, Maryland
Established 1991

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July, 2019

Upcoming Events

14 July 2019 - Joint Meeting with the American Fossil Federation

15 September 2019 - 16th Annual MGS Auction

17 November 2019 - Elections & Annual Holiday Party

Dates to Remember

Please note date change: July 14th, 2019

Meeting Time and Location

11:00 AM to 3:00 PM

Bowie Community Center, 3209 Stonybrook Drive, Bowie, MD 20715

Joint Meeting with AFF

Mineral of the Meeting - Apophyllite. Bring a few choice specimens to the meeting.



The fewer the facts,
the stronger the opinion.

Arnold H. Glasow



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Mike Folmer	(410) 850-0193	Rick Smith	(443) 771-6761
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Maryland Geological Society

Founded in 1991, MGS is comprised of both amateur and professional mineral and fossil collectors. The organization emphasizes collecting, identification, study and display aspects of the geological sciences. MGS is a nonprofit organization affiliated with the American Federation of Mineralogical Societies (AFMS) and the Eastern Federation of Mineralogical and Lapidary Societies (EFMLS).

Dues

Annual dues are \$15.00 per individual adult member. Applications for membership may be obtained from the MGS website or by contacting the Membership Chairman, Mike Folmer, at 417 West Maple Road, Linthicum, MD 21090, (410) 850-0193. Dues are payable by January 1st of each year.

Meetings

Meetings are held bimonthly, beginning in January at the Bowie Community Center, located at 3209 Stonybrook Drive, Bowie, MD - (301) 464-1737. The doors open at 11:00 AM and the meetings are completed by 3:00 PM. Club meetings will be held as scheduled so long as the Bowie Community Center is open.

Meeting Dates & Programs for 2019

January 20: General Meeting

July 14: Joint Meeting with AFF

March 17: General Meeting

September 15: 16th Annual Auction

May 19: Joint Meeting with AFF

November 17: Elections & Holiday Party

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The Rostrum

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Material for the website should be sent to Jim Stedman at stedmanjim@gmail.com.

Mineral of the Meeting: Apophyllite

Bob Farrar

For the July meeting of MGS, the Mineral of the Meeting will be apophyllite. Apophyllite is a fairly common mineral and can form large and attractive crystals, and is thus a favorite among collectors.

Apophyllite is a hydrous fluoro/hydroxyl silicate of potassium and calcium, $KCa_4Si_8O_{20}(F, OH) \cdot 8H_2O$. Technically, it is a group of minerals; fluorapophyllite when fluorine predominates, hydroxyapophyllite when hydroxyl predominates. Another mineral in the same group is natroapophyllite, which contains sodium instead of potassium. However, most specimens are simply labelled as apophyllite. Apophyllite is commonly thought to be a zeolite because it frequently occurs with zeolite minerals, but it is actually not a zeolite. Apophyllite crystallizes in the tetragonal system. Crystals are often well developed, and are usually square in cross section with flat or pyramidal terminations. It is most often colorless or white, but may also be green, pink, or yellow. Other physical properties include a hardness of 4.5 to 5.0, glassy luster, perfect basal cleavage, and a specific gravity of 2.3 to 2.4. Crystal form, cleavage, luster, and occurrence can usually distinguish apophyllite.

Apophyllite most typically occurs in traprock and basalt formations, as well as some pegmatites and ore veins. The most prolific source of apophyllite is the basalt formations of Poonah, India, and surrounding localities. Most specimens from Poonah are white or colorless, but some are a beautiful shade of green. They are often associated with zeolites, such as stilbite or heulandite. Similar specimens have been found in basalts in southern Brazil, but in much lesser quantity. An example of an ore vein occurrence is Guanajuato, Mexico, where it is found with amethyst in a silver deposit. Other worldwide localities are many, and include Mt. St. Hilaire, Quebec, as well as Russia, Australia, China, and Europe.

There are several important apophyllite localities in the Mid-Atlantic area. The traprock quarries of Northern Virginia are famous for apophyllite, often found with prehnite and zeolites. At the Centreville (Fairfax) Quarry, apophyllite crystals and groups of crystals up to 20 cm across, and among the world's finest, have been found. Apophyllite is also common in the traprock quarries of New Jersey. Less typical localities in the region include the iron mines at Cornwall and French Creek, Pennsylvania.

While a bit too fragile for use as a gemstone, apophyllite is very popular among mineral collectors. Specimens from India can be seen at almost any rock show for a reasonable price. Larger pieces, especially of attractive shades of green, can be pricier. Locality also adds to the value of specimens; pieces from Virginia will be more expensive than comparable pieces from India. Apophyllite is something that can be had even by beginning collectors, but is also something that advanced collectors will seek out.



Apophyllite specimen from India. Image by Rob Lavinsky and reproduced under Creative Commons Attribution-Share Alike 3.0 Unported license. Image is available at [Wikimedia Commons](#).

Field Trips

Field Trip Coordinators - Marci & David Shore

The Maryland Geological Society is an advocate of responsible collecting. The society has permission to collect in all of the sites listed that require such permission. Most trips are weather dependent and some require at least an average level of physical fitness. Field trips are restricted to MGS members only.

No trips scheduled at this time.

Minutes of the Meeting for May 19, 2019

Jim Stedman

The MGS and the American Fossil Federation held a joint meeting on this date. During the business meeting of the AFF, a motion was approved by the membership of the two clubs to combine their July meetings and meet jointly on July 14, 2019. Further, during the AFF business meeting, members of both clubs discussed the possibility of the clubs merging, a step that might respond to the declining membership of each organization. MGS Board of Directors member **Rick Smith** noted that such a step should involve decision-making by the executive bodies of both organizations. It was agreed that further exploration was necessary.

MGS Business Meeting

President's Report: President **Gary Lohman** was not present. Presiding over the meeting was Vice President **Eric Seiffter**. Eric described the raffle and silent auction that would occur following the meeting. He also had on display his newly acquired mammoth tusk, a replacement for the one damaged in his house fire.

Field Trips: Junior Coordinator **David** said that he is arranging a field trip for the junior members to NASA. Further information on the trip will be released when plans are finalized.

Treasurer's Report: Treasurer **Rob King** said that the club has \$417.00 in cash, \$371.99 in checking, and \$2,734.39 in savings, for a total of \$3,523.38.

Membership Report: Membership chair **Mike Folmer** reported that the club has 41 active members, 11 life members, and 7 junior members.

Newsletter: Editor **Rick Smith** checked to be sure everyone present had received the latest newsletter. He asked members to contribute to the newsletter, and thanked **Dominique M. Joos de ter Beerst** and **Jim Stedman** for their contributions to the May issue.

Website: Webmaster Jim Stedman said the website was up and running. He asked members to contribute pictures of finds from the Calvert Cliffs.

New Business: Rick, who has been in contact with founding member **Dick Grier, Jr.**'s nephew Justin, had no further news to report on services for Dick who died on April 10. Jim said that the U.S. Postal Service was issuing four stamps in late August celebrating *Tyrannosaurus rex* and that an event marking the release may be held at the Smithsonian's National Museum of Natural History. Further, he noted that the thoroughly renovated dinosaur hall at the Museum will be opening in early June. Eric described a recent article in *The New Yorker* (April 8, 2019, by Douglas Preston) on a site that may provide a record of the immediate impact of the End-Cretaceous event.

Mineral of the Meeting: **Bob Farrar** gave a talk on taaffeite.

Adjournment: Eric adjourned the meeting.

Dinosaurs Take Over The Smithsonian

Jim Stedman

At last, the wait is over! On June 8th, the Smithsonian's National Museum of Natural History opened the David H. Koch Hall of Fossils - Deep Time to the general public. The new hall (it's been referred to as a "new old" hall because it replaces the previous incarnation of a fossil hall) was five long years in the making. It now offers visitors a splendid show of jaw-dropping fossils (over 700 fossils are on display), as well as cutting edge science reflected in the displays and their signage (some 75,000 words of text). For those who remember the old hall, one of the most welcome changes will be how much light and space there now is.

From the entrance off the museum's rotunda (where the African bush elephant stands), visitors embark on a journey from the present back to the origins of life on this planet. This trip into deep time is punctuated by several mass extinctions plainly identified. During this journey back in time, life forms become increasingly different from those we see in the present day.



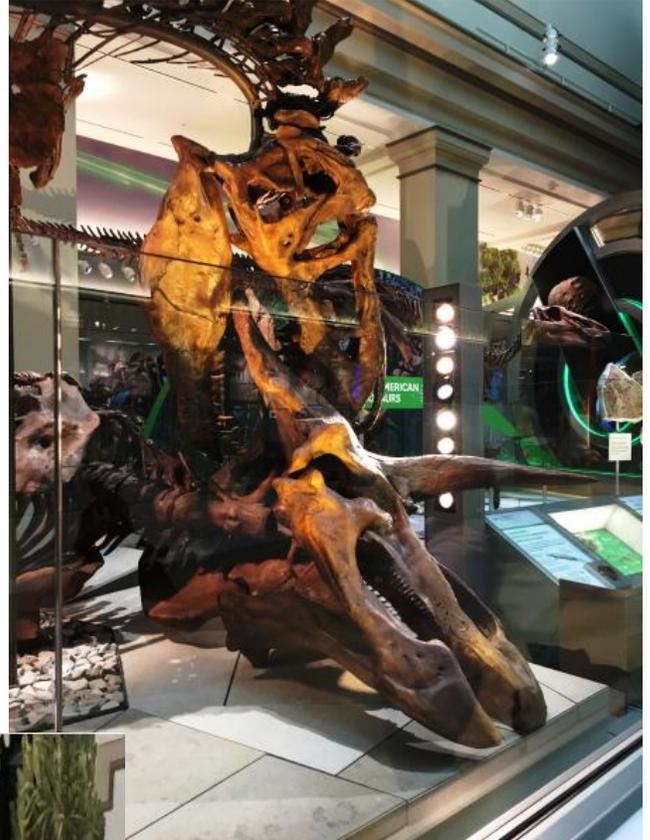
It's impossible to capture the full richness of the hall's fossil displays in a single article. So I will offer just a few of the highlights of my first visit.

Though I'm not particularly a dinosaur devotee, it's hard to ignore their spectacular presence here. Indeed, the hall's two star attractions dominate center stage where they recreate a dramatic and grisly scene from the Late Cretaceous in which a teenage *Tyrannosaurus rex* leans over a prone *Triceratops horridus*. The *T. rex*, its open mouth exposing monstrous spiked teeth, is posed to take a bite out of the poor *Triceratops*.

Of note, the skulls of both of these dinosaur skeletons are casts. Though the museum has the actual skull material found with both

fossils, this dynamic scene with the skulls in such close proximity required the use of the lighter casts. As to the other fossils on display, the museum's labels make it quite clear what's a cast, and, in the fossils themselves, different shades of color mark the material that is manufactured and not actual fossil.

Among the other dinosaurs that populate the hall is a wonderful *Diplodocus*, stretching some 90 feet from the tiny tip of its tail to the blunt tip of its nose. It stares (out of curiosity?) at visitors from its place in the Late Jurassic.



Beyond the dinosaurs, there's so much more here to be viewed and, indeed, some things to be touched. Fossils of animals and plants from land and sea throughout deep time abound. Though, sadly, life in the sea seems somewhat relegated to the periphery (literally) of the hall during much of this sojourn into the past.

Some of the most beautiful non-dinosaur fossils (at least to me) are the Eocene specimens from the Green River Formation, some 54 to 48 million years old. The sedimentary layers that formed at the bottom of various lakes in the region preserve the fossils of insects, plants, fish, and other organisms in exquisite detail. Specimens from this formation on display include an amazingly preserved skeleton of a *Phareodus encaustus* (bony-tongued fish) found in Wyoming.





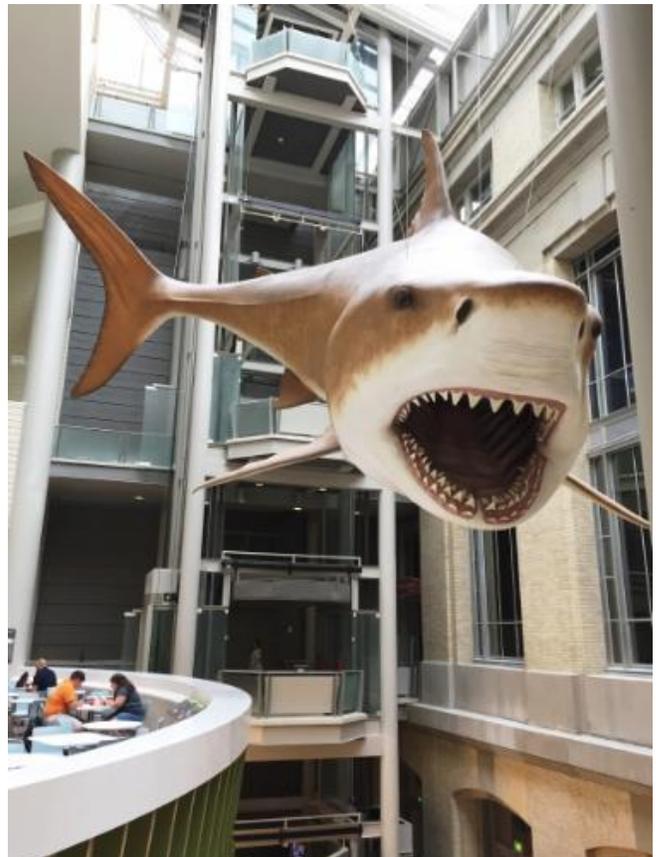
Plant lovers will find much to enjoy, particularly the fossils of the early angiosperms (flowering plants) that emerged by at least 130 million years ago. One specimen (photo on left) caught my eye showing leaves from a *Sapindopsis sp.*, a sycamore relative. This was found in the Potomac Group, Aquia County, Virginia and is 107 to 100 million years old.



Woven into the very essence of this hall are several important messages that reflect what science tells us about our planet from its earliest moments to the present and into the future. Evolution occupies a central role, represented most visibly in the statue of a young Charles Darwin seated in the middle of the hall. He is looking back toward the entrance which is crowned with a quotation from his *On The Origin Of Species*: "From so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved."

Another message delivered forcefully in the hall's displays is that the climate has changed often throughout the ages with profound consequences for life on Earth. No punches are held when the displays consider what is happening to the planet today. They make clear that our climate is changing, warming at a rate faster than any experienced at any time in the last 800,000 years, and human activities are the cause. This rapid change presents humankind with an existential challenge.

In closing, I would be remiss not to mention that there is something else, outside of the Fossil Hall, that newly graces the National Museum of Natural History - a remarkable model of a *Carcharocles megalodon*, all 52 feet of it, swimming in air near the museum's Atrium Cafe.



(All photos were taken by the author.)

Photos from the May, 2019 Meeting Marci Shore



On display was a tusk of a *Mammuthus primigenius* (Woolly Mammoth) from the Eric Seifert collection. The tusk is from an older male that would have stood 10-12 feet high and weighed between 6-8 tons. It was found at Kamieniolam Bóbrka (river gravel quarry) at the San River in central eastern Europe and dates to the Late Pleistocene Epoch (150,000-20,000 years old). *Mammuthus primigenius* evolved from *M. trogontherii* (the steppe mammoth).



A few of the raffle items:



Shows & Events

October, 2019

28-29: 55th Annual Atlantic Coast Gem, Mineral, Jewelry, and Fossil Show hosted by the Gem Cutters Guild of Baltimore. Location: Howard County Fairgrounds, West Friendship, MD. More info at www.gemcuttersguild.com.

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Dates to Remember

Date Change: Sunday, July 14th - Joint Meeting with AFF

Meeting Time & Location

11:00 AM to 3:00 PM

Bowie Community Center

3209 Stonybrook Drive, Bowie, MD 20715

301-464-1737

Location/Directions: The Center is located off of Route 450 in Bowie. Detailed directions and a map can be found on the MGS website (www.ecphora.net/mgs/).

Mineral of the Meeting: Apophyllite. Bring a few choice specimens to the meeting.

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