



The Rostrum

The Newsletter of the Maryland Geological Society
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July, 2016

This is what you missed at the May Meeting

At the May joint meeting with the American Fossil Federation, Dr. Bretton Kent of the University of Maryland spoke on "The Rise and Fall of the Neogene Giant Sharks." In a rich and fascinating talk, Dr. Kent described how rising temperatures, beginning in the Late Oligocene, marked a period of great diversity and expansion of marine communities, fueling the rise of giant shark species. He focused principally on the False Mako Shark (*Paratodus benedeni*) and Giant Thresher Shark (*Alopias spp.*). Dr. Kent (on the left) is seen engaging MGS/AFF member Mark Bennett in a discussion of the finer points of these sharks. A big thank you to our MGS Junior Member David Shore for arranging for his friend and mentor Dr. Kent to provide us with such an interesting lecture.



Dates to Remember

July 17th, 2016

Meeting Time and Location

11:00 AM to 3:00 PM

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

General Meeting

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



The universe is full of magical things patiently waiting
for our wits to grow sharper.

Eden PhillPotts



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		MGS Sales	Mel Hurd (410) 580-5612
		Field Trip Coordinators	Marci & David Shore
		EFMLS Liaison Rep.	Cindy Lohman (301) 862-1957
		<u>Board of Directors</u>	
		Bob Farrar (301) 464-1137	Bob Asreen
		Mel Hurd (301) 580-5612	Michael Hutchins (301) 625-9545
		Mike Folmer (410) 850-0193	Rick Smith (410) 247-2190

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 2016

January 17: General Meeting

July 17: General Meeting

March 20: General Meeting

September 18: Annual Auction

May 15: Joint meeting with AFF

November 20: Elections & Holiday Party

Correspondence

Direct mail to Gary Lohman, 21995 Barkentine Court, Great Mills, MD 20634. Phone: (301) 862-1957.

The Rostrum

Published bimonthly beginning in January. Submit material for publication electronically to rick.smith.mgs@gmail.com or by mail to Rick Smith, 1253 Brewster St, Baltimore, MD 21227.

Website

www.ecphora.net/mgs/
Material for the website should be sent to Jim Stedman at stedmanjim@gmail.com.

Mineral of the Meeting: Variscite

Bob Farrar

For the July meeting of MGS, the Mineral of the Meeting will be variscite. Named for Variscia, Germany, variscite can be an interesting mineral for collectors, as well as an attractive gemstone.

Variscite consists of hydrous aluminum phosphate, $\text{Al}(\text{PO}_4)\cdot 2\text{H}_2\text{O}$. It crystallizes in the orthorhombic system, though crystals are rare. Variscite is most commonly green, but it can also be pink or red. Physical properties include a hardness of 3.5 to 4.5, specific gravity of 2.2 to 2.8, porcelaneous luster, a general lack of cleavage, and insolubility in acids. Its color and negative tests for copper or nickel generally distinguish variscite from other minerals.

Variscite generally occurs in the weathered zones of aluminum deposits, and in phosphate-rich pegmatites. The best known occurrence is Fairfield, Utah, where variscite is found as green nodules up to 30 cm in diameter. Variscite at this locality is generally associated with other phosphate minerals such as wardite, millisite, and crandallite. A locality noted for unusually well-formed crystals is Canaran, Mato Grosso, Brazil. There, spherical clusters of green crystals up to 1 cm in diameter are found in cavities in a grayish chalcedony. Also in Brazil, several phosphate pegmatites in Minas Gerais are known for small red crystals. Red crystals are also known from the Iron Monarch Mine in Australia. Crusts of green variscite are found in Avant, Arkansas. Variscite is known from a number of localities in Europe, as well as Bolivia, and, in this country, Bisbee Arizona and Graves Mtn., Georgia.

The colorful nature of variscite, and its variety of forms make it an interesting mineral for collectors. The material from Utah is popular among lapidaries, as it can be polished into beautiful cabochons. Variscite is not a particularly common mineral, but specimens are numerous enough that most collectors can obtain it for a reasonable cost.



Variscite from Utah. Image by Rob Lavinsky, Irocks.com, and reproduced under Creative Commons Attribution-Share Alike 3.0 Unported license. Image is available at [Wikimedia Commons](#).

Field Trips

New 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.

Unfortunately the MGS Future Rockhounds of America Fossil Hunt scheduled for Sunday, May 22 to Brownies Beach had to be rescheduled due to adverse weather.

No field trips scheduled at this time.

Minutes of the Meeting for May 15, 2016

Marci Shore & Jim Stedman

President's Report: MGS President **Gary Lohman** called the meeting to order. (Note: This was a joint meeting with the American Fossil Federation. This set of minutes reflects the business meeting of the MGS.)

Treasurer's Report: Treasurer **Dave Andersen** reported that the club has \$2,692.75 in savings, \$1,889.76 in checking, and \$151.57 in cash, for a total of \$4,734.08.

Newsletter: Editor **Rick Smith** noted that without the prolific writings of Michael Hutchins and Bob Farrar, the newsletter would be quite sparse and asked those in attendance to please consider contributing an article. As has been stated on multiple occasions, if it is of interest to you, it is probably of interest to other MGS members.

Website: Webmaster **Jim Stedman** was not present, but sent word he could use pictures of members' finds to post on the website.

Social Media: Chair **Michael Hutchins** reported that the club's Facebook page is doing well with over 360 likes. It is updated every day or every other day.

Membership: Chair **Mike Folmer** reported that the club has 60 adult members (this includes 14 life members), and 12 junior members.

Field Trips: Coordinators **Marci and David Shore** described the collecting trip next weekend by MGS junior members and their families to Brownies Beach.

EFMLS: Liaison **Cindy Lohman** described the potluck and rock swap that the Southern Maryland Rock and Mineral Club is hosting for EFMLS Region 4 clubs on June 18 at Gilbert Run Recreation Park near La Plata, MD. In addition, the Chesapeake Gem and Mineral Society is holding its annual gem and mineral show on May 21 in Towson, MD.

Future Rockhounds of America: Sponsor Rick Smith noted that the FRA junior members were organizing the May 22 collecting trip to Brownies Beach.

25th Anniversary: **Mel Hurd** is leading the effort to organize the MGS 25th anniversary celebration this year. He and Gary Lohman will work on setting a date for the event.

Mineral of Meeting: **Bob Farrar** spoke about aragonite.

Adjournment: The meeting was adjourned. Following the meetings of both clubs, Dr. Bretton Kent of the University of Maryland delivered a talk titled "Rise and Fall of the Neogene Giant Sharks."

Q&A with Dr. Bretton Kent

David Shore, MGS Junior Member

Dr. Kent addressed the MGS and AFF meeting on May 15, 2016. He spoke about "The Rise and Fall of the Neogene Giant Sharks". Below is a Q&A with Dr. Kent by David Shore.

1. What is your favorite fossil find?

A large lower lateral *Hexanchus* tooth from Lee Creek Mine.

2. What is your favorite place to hunt for fossils in Maryland? In the world?

I really like collecting Calvert Cliffs. Because of the large number of collectors, this can be challenging, but the fossil teeth have beautiful coloration. If I had one place to collect, it would be Lee Creek Mine (at least as it was in the past) because of the sheer quality and quantity of the fossils.

3. What do you like to do with your free time when you are not hunting for fossils?

Free time - what's that? Actually, when I'm not working on fossils I spend time on road trips with my wife or fly fishing for trout and salmon.

4. What are your favorite fossil books?

I like Cappetta's 1987 and 2012 books on fossil elasmobranchs, and the *Palaeontos* monographs (especially those coming out of Reinecke's research group).

5. Who are your favorite scientists from the past and/or present?

The most influential scientist has to be *Geerat Vermeij* (the advisor for my PhD). Despite going blind at the age of three he is a brilliant scientist and a fearless collector in the field.

6. How did you become interested in fossils?

My interest in fossils began very early by visiting my local museum.

7. Do you have a favorite personal story about fossils?

I was collecting at *Matoaka Cottages* on a cold, miserable day and had two local teenagers (and very good collectors) ahead of me on the beach. I wasn't expecting to find many fossils, but as the other collectors were walking along they were watching a group of swans just offshore instead of looking at the beach. I noticed that they had overlooked a very large *hastalis* tooth and as I bent over to pick it up I realized they'd also overlooked a fist-sized whale vertebra. So I'm bent over with a *hastalis* tooth in one hand and a whale vertebra in the other when I glance a few feet farther along the beach and see a large *megalodon* (see attached photo). Their footprints were within two feet of all three fossils.

8. How many shark teeth do you have in your collection?

There are about 26,000 teeth in my research collection.

9. What is your favorite shark?

That's a tough one, but I'm particularly fond of the giant thresher sharks.

10. What project are you working on now?

I'm working on a citizen science project looking at small elasmobranch teeth from the *Popes Creek Sands* (Bed 1) of the *Calvert Formation*. I also have several side projects providing additional details about some of the sharks in my Smithsonian chapter on *Calvert Cliffs chondrichthyans*.



New Lungfish Named for Peter Kranz PG County News

The following is an article extracted from the Prince George's County Department of Parks and Recreation website:
http://mncppcapps.org/pgparks/dino_blog/dino_article.aspx?articleid=23



University of Oklahoma paleontologists Joseph Frederickson, Thomas Lipka, and Richard Cifelli have named and described a new species of lungfish that once cruised the swampy waterways of Cretaceous Maryland. Called *Ceratodus kranzi*, the animal is known from a tooth-studded portion of an upper jaw, which was discovered at the Dinosaur Park quarry by Thomas Lipka. The species name, *kranzi*, honors Maryland paleontologist and Dinosaur Park interpreter Peter Kranz.

Lungfish first evolved around 380 million years ago, during the Devonian Period. As the name suggests, these fish have simple lungs - actually a jury-rigged swim bladder - that let them breathe while out of the water. While they cannot move very fast or far on land, lungfish can wait around for extended periods if a pond dries up around them. Lungfish were among the first backboned animals to evolve the ability to survive on land. Although they are not our direct ancestors, lungfish are more closely related to tetrapods (four-legged animals, including amphibians, reptiles, and mammals) than they are to most other fish. There are six species of lungfish living today, but they are limited to the Southern hemisphere.

Lungfish fossils from the Age of Dinosaurs have been found on every continent except Antarctica. Nevertheless, they are rare finds, and the diversity and distribution of these animals through deep time is poorly understood. This is particularly true in the eastern United States. Before the discovery of *Ceratodus kranzi*, only one other Cretaceous lungfish was known from the east coast.

Ceratodus kranzi is also notable for its size. Frederickson and colleagues estimate that it grew to six feet in length, comparable to the giant Queensland lungfish of Australia. This would have been big enough to be a formidable predator in Maryland's prehistoric swamps and ponds. It probably fed on frogs, salamanders, and smaller fish - but it could have also snapped up a baby dinosaur if given an opportunity!

Reference: Frederickson, J.A., Lipka, T.R., and Cifelli, R.L. (2016). A new species of the lungfish *Ceratodus* (Dipnoi) from the Early Cretaceous of the eastern U.S.A. *Journal of Vertebrate Paleontology*.

Beware the Cliffs

Rick Smith

Pictured below is a scene from the past and not one that many of us will, or should, ever experience. Digging into the cliffs is strictly prohibited except with permission and normally only for scientific study. There are inherent dangers associated with this activity as the story below will describe. The photo includes William Palmer, a field naturalist and preparator with the Smithsonian Institution in the late 1800's and early 1900's, and his wife along with two others.



The following was extracted from an article in *The Auk, A Quarterly Journal of Ornithology*, Vol. XXXIX, No. 3, July, 1922, In Memoriam: William Palmer. (born August 1, 1856-died April 8, 1921), by Charles W. Richmond

"Although Palmer found time to contribute about sixty papers and lesser items to the scientific journals, it was as a field naturalist that he reached his greatest development, for his experience in the local region extended over nearly fifty years, and with an excellent memory for past events, he was able to recall natural history conditions as they existed here long ago. He did not give up field work with advancing years, but continued his trips with undiminished interest. He was a genial and wholesome companion on trips afield, and frequently accompanied the younger naturalists on their excursions to neighboring parts of Virginia and Maryland. His adventures on these collecting trips were many and varied, especially while searching for fossils at low tide along the base of crumbling cliffs, and it is not surprising that some one incident or experience should stand out with greater prominence than others.

Palmer met with such an experience in 1917, when on one of his excursions to Plum Point, near Chesapeake Beach. On his way to the cliffs, he stopped as usual at the home of the Dixon family, friends with whom he put up when his work required an extended stay, and on leaving for the fossil site was followed by "Doll," the pet dog of the house, who frequently accompanied him on these trips. During the course of his work he accidentally dislodged a large mass of earth, which fell on him with crushing force pinning him on his back to the ground. Although severely injured, he succeeded in freeing his arms, and gave his attention to considering means for relief. Travel is infrequent at this point and the imprisoned man decided that in his four-footed friend lay his only hope of an early rescue. Managing to find pencil and paper in his pockets, he scribbled a brief message explaining his predicament, and calling the dog fastened the message securely to her neck with his neck-tie, and attempted to drive her home. But "Doll" was inclined to regard this as a new play, not understanding what was expected of her. Finally, after clods of earth had been thrown at her, the animal left. Fortunately, she went directly home, but had some difficulty in gaining admittance, in spite of her barking, as Mr. Palmer was supposed to be near at hand. However, she finally succeeded, and Mrs. Dixon quickly discovered the unusual decoration. A closer inspection disclosed the message, other members of the household were notified, and a relief party was shortly on the way to the cliffs, a half mile or more distant, where the injured man was found and soon extricated from his unusual plight. He was unable to stand, and was carried back to the house, and later removed to his home. It was several weeks before he was able to return to his duties at the Museum, and for a long time thereafter he walked with a limp; in fact, is said never to have fully recovered from the effects of this experience."

Shows & Events

September, 2016:

24-25: 52nd Annual Atlantic Coast Gem, Mineral, Jewelry, & Fossil Show hosted by the Gem Cutters Guild of Baltimore. Howard Co. Fairgrounds, West Friendship, MD.

Continuing:

Nature Connections Series, 1:00 - 4:00 pm, 2nd & 4th Sunday of each month, Natural History Society of Maryland, 6908 Belair Road (in Overlea), Baltimore, MD 21206, contact: atyler@marylandnature.org. Free admission/open to the public/pre-registration is not required - just stop by at your convenience. More details at: <http://marylandnature.org/nature-connections>

Dates to Remember

Sunday, July 17th - General Meeting

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: Variscite. Bring a few choice specimens to the meeting.

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Rick Smith, Editor

1253 Brewster St

Baltimore, Maryland 21227

First Class Mail

