President's Message

One of the more visible faces of our society is The Rostrum, our award winning newsletter. I would like to congratulate both Gerald Elgert and Jim Stedman, the editor and associate editor, respectively, for the outstanding job they have performed. They have repeatedly assembled a newsletter that all of us are excited to read each time it reaches us. Additionally, each has been a regular contributor to the newsletter as well. At the next meeting, take just a moment to personally thank them for the time and care that they expend in creating a newsletter for you to read and enjoy. Please also consider making your own submission to The Rostrum. Technical and non-technical articles, poems, and drawings can all be submitted. Material from our junior members would be especially welcome. Please help The Rostrum continue to be an excellent publication and a valuable resource to MGS members.

Cheers,
Rick

Dates to Remember

Sunday, May 15, 2011 - Next MGS Meeting
Joint Meeting with the AFF

Meeting Time and Location
11:00 AM to 3:00 PM
Bowie Community Center, 3209 Stonybrook Drive, Bowie, MD 20715

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

Dr. Robert Weems will speak on fossil turtles.

It's spring, and a young stream's fancy turns to erosion.

~ Geologist Robert Titus, The Other Side of Time
Meeting Dates & Programs for 2011

May 15: Joint MGS & AFF Meeting – Dr. Robert Weems will lecture on fossil turtles
July 17: General Meeting
September 18: Auction
November 20: Elections and Holiday Party
The First Issue of *The Rostrum* – A Look Back 20 Years
Jim Stedman

It was 20 years ago today,
*Sgt. Pepper taught the band to play.*
~ John Lennon/Paul McCartney

The men and women who gathered at the Matoaka Cottages on Sunday, November 24, 1991, to create the Maryland Geological Society may not have “taught the band to play,” but they certainly set the standards that today’s members know and enjoy. I’ve spent some time reading the first issue of the club’s newsletter, *The Rostrum*, which came out shortly after that founding meeting and I come away with a deeper appreciation of the good work and foresight of those charter members. As the current associate editor of the newsletter, I am particularly interested in the origins of *The Rostrum*.

At that first meeting, among other things, the founders agreed on the format, cover page, and logo that would mark the new club’s newsletter. Twenty years later, the newsletter remains faithful to the original agreements reached then and the best of what appeared in the premier issue of *The Rostrum*. Dick Grier, Jr., a moving force behind the newsletter, became its first editor; Ron Ison held the contributing editor position. From the outset, the newsletter served fossil and mineral collectors. The heady mixture of articles in the first issue included such items as:

- a featured piece by Dick Grier, Jr., on the mineral Tourmaline started the tradition of essays on different minerals that Bob Farrar, also one of the founding members, carries on so ably today;
- reports on collecting trips to such places as Lee Creek (one of my favorites describes how Jim Earman, Steve Gladhill, and Debbie Burdette went scuba diving for shark teeth before the Matoaka meeting and, to quote Jim Earman about the wealth of teeth they found, “We’re killing ‘em out there.”);
- an illustrated technical article by Dick Grier, Jr., on how to distinguish among cow shark teeth;
- a listing of upcoming mineral and fossil shows;
- an announcement of planned trips including one in late January (1992) to Purse State Park and one down to the National Museum of Natural History;
- a membership application that stated the annual cost of a membership was $5 for an individual and $8 for a family;
- an announcement of the topic of discussion by the featured speaker at the next meeting (“Minerals and Fossils” by Dick Grier, Jr.);
- several pages devoted to pictures of members of the new MGS at collecting sites like Lee Creek; and
- an appeal for articles (some things really never change!).

During our 20th anniversary year, looking back at the roots of the club offers us an opportunity to see what has changed in the intervening two decades and what has endured. An award-winning newsletter is one of the legacies of that meeting in November, 1991.
Mineral of the Meeting: Calcite
Bob Farrar

The MGS Mineral of the Meeting for May will be one of the commonest, and one of the most popular minerals, calcite. The dizzying range of variety seen in calcite, along with its ready availability, have made calcite a great favorite among collectors.

Calcite is the commonest member of the carbonate group, consisting of calcium carbonate, CaCO$_3$. It crystalizes in the hexagonal system, but shows a tremendous degree of variability in crystal form. According to some, calcite occurs in over 550 forms. Among the more common forms are scalenohedral, or dog tooth (steep-sided pyramids), nail heads (nearly parallel-sided with nearly flat terminations), and rhombohedral (parallelograms). Calcite has perfect rhombohedral (3 planes) cleavage. Perfect rhombs can often be cleaved from large blocks; when transparent, these are known as "Iceland Spar". Most of the cheaper rhombs seen at rock shows are cleavage fragments, not crystals. An interesting property is double refractivity. When a clear cleavage fragment is laid over a line or other image, the image appears doubled. Calcite is frequently fluorescent, and is sometime phosphorescent. It occurs in a wide variety of colors, usually in lighter shades, including colorless, white, yellow, brown, blue, or purple. Traces of manganese or cobalt impart pink colors. Calcite is one of the standard minerals of the Mohs hardness scale, with a value of 3. In acid, calcite fizzes readily and rapidly dissolves. The combination of cleavage and solubility in acid are usually sufficient to distinguish calcite from other minerals. Aragonite has the same chemical composition, and also dissolves in acid, but it lacks the cleavage of calcite.

Calcite occurs in virtually all classes of rocks except granites and pegmatites, but some environments are more important than others. Some limestone formations are virtually pure calcite, as are some marble formations that are derived from these limestones by metamorphism. Other limestones and marbles grade into dolomite. Dissolution and redeposition of limestones can produce onyx, a form of calcite, as well as crystals. Similar processes can occur in marbles. Metallic ore veins cutting through sedimentary formations often contain spectacular calcite crystals. The Elmwood Mine in Tennessee is a good example, as are the lead/zinc mines of the "Tri-State" District (Missouri-Kansas-Oklahoma). In volcanic formations, calcite is common in vugs and geodes, such as those in Brazil, Mexico, and India. Calcite is sometimes found replacing fossils, such as the shells found at Ruck's Pit in Florida. Worldwide localities are too numerous to mention.

We in the Mid-Atlantic area are fortunate to have been blessed with a number of fine calcite localities. In Maryland, the most outstanding locality is perhaps the Medford Quarry in Westminster, Carroll Co., source of thousands of specimens. This is a marble formation where calcium carbonate has been dissolved and redeposited in vugs. Vugs several feet across, and crystals as much as a foot long have been found there. Among the more interesting material from Medford is purple calcite which fluoresces red. In the same area, the Lehigh Quarry in Union Bridge has also produced calcite crystals. Calcite crystals have been found in serpentine formations, such as the Delight Quarry in Baltimore Co. Calcite also occurs at the Hunting Hill Quarry in Rockville, but most commonly in masses that collectors often dissolve with acid to expose garnets and other more interesting minerals. Pennsylvania has numerous calcite localities; particularly outstanding is the Delta Carbonate Quarry in York. In northern Virginia, calcite occurs with zeolites in traprock quarries.

Calcite is one of the most popular minerals among collectors. Well developed crystals in myriad forms pique the interest of beginning and advanced collectors alike. And its abundance is such that just about any collector can own a few, if not many, specimens of calcite.

(Photo courtesy www.teachersource.com).
You may have noticed that the MGS logo gracing this issue of The Rostrum has undergone a small change in celebration of the 20th anniversary of our founding in 1991. Without affecting the traditional images in the logo, past MGS president Mel Hurd very ably added "20 Years" as well as the year of our founding and this year. But, though the map of Maryland is pretty obvious, you might ask what else the MGS logo depicts and why. In the article below, charter member Dick Grier, Jr., describes how he designed the logo in 1991 and explains the images it contains. Here is the 20th anniversary version of the logo:

Background on the MGS Logo
Dick Grier, Jr.

The Maryland Geological Society logo was designed by me shortly after the club was formed in 1991. The American Fossil Federation (AFF), under the leadership of George Powell, Jr. had just come out with their logo which featured an Ecphora and a Carcharocles megalodon. I wanted ours to be unique, and I wanted to signify that we were interested in acquiring members who were either fossil or mineral collectors, or both. So I decided on a tooth of Isurus oxyrynchus (short fin mako), a chrysoberyl sixling, and a silhouette of the State of Maryland.

The Isurus oxyrynchus is one of my favorite teeth, and was the first shark tooth I ever found. The one pictured here is from the Pliocene and was found at Lee Creek in the Yorktown Formation. They are not rare teeth, and many can be found in pristine condition in Maryland and at Lee Creek, North Carolina.

The chrysoberyl sixling is an orthorhombic crystal repeatedly twinned six times until it forms a hexagonally-shaped crystal. They are extremely rare, expensive, and are one of the treasures of the mineral kingdom. Chrysoberyl is found in Brazil, Madagascar, Mozambique and several other countries. My father and I consider ourselves lucky to have one in our collection, although ours is not as perfect as the one pictured here.

The silhouette of the State of Maryland was utilized to indicate that we sought members from all over the state (and, of course, other states & countries).

(Photo of Isurus oxyrynchus tooth is by Gary Greaser of Buried Treasure Fossils and reprinted with permission; photo of chrysoberyl is by Rob Lavinsky and used under a Creative Commons Attribution-Share Alike 3.0 Unported license.)
Shows and Events

May 21-22 – Annual Chesapeake Gem & Mineral Show hosted by the Chesapeake Gem & Mineral Society at Ruhl Armory, MD Rt. 45 at I-695, Towson, MD. For information on the show, visit the club’s website at: http://chesapeake.rockclub.us/.

May 27-29 – 18th Annual Aurora Fossil Festival in Aurora, NC. See article elsewhere in this issue with more information and web address.

July 6-10 – EFMLS/AFMS Convention & Show hosted by the Gem & Mineral Society of Syracuse, at the New York State Fairgrounds, Syracuse. AFMS meetings: July 7-8; EFMLS Annual Meeting: July 8; Show: July 9-10. Information and various forms available at http://www.amfed.org/efmls/conventionp.htm.

Continuing - The Grier fossil & mineral collections are up for sale by Dick, Sr. and Jr. at 10% off. There are literally hundreds of mostly competition quality specimens available, and close to one thousand in all sizes. Specimens are both self-collected and purchased world wide. We have been collecting for over 45 years. Still remaining are thousands of worldwide shark teeth, some very rare, obtained by trading with European collectors over the Internet. There are large numbers of ammonites, echinoids, and brachiopods, as well as fern fossils, vertebrate fossils and others. The minerals remaining include gold, emeralds, silver minerals, topazes, beryls, tourmalines, aquamarines, amethyst and heliodor. Minerals range from micromount and thumbnail size to museum-size. All specimens are crystallized. So far the meteorites, dinosaur teeth and the larger shark teeth have been sold, as well as my collection of tourmalines from around the world. Please come and visit us by appointment. Arrange for an appointment by calling Dick Grier, Sr. at (410)285-5554. We live in Dundalk, a south east suburb of Baltimore, at 8052 Kavanagh Road. “Come by and see us,” says Dick!

Minutes of the March 20th Meeting
Gary & Cindy Lohman

President’s Report: Rick Smith called the meeting to order at 12:07. Rick is currently soliciting speaker ideas for the MGS 20th anniversary celebration. Anyone with ideas, please contact Rick or Mel Hurd.

New Members: Rick welcomed new members and visitors.

Vice President’s Report: Vice President Eric Seifter is on travel, so no news to report.

Secretary’s Report: Minutes from previous meeting written by Gary & Cindy Lohman were accepted with no additional comments.

Treasurer’s Report: Treasurer Dave Andersen reported that the PayPal account is set up, but not yet on the club website. Club’s financial status included: $2,275.91 in checking, $3,094.66 in savings.

Membership: Membership stands currently at 91, which includes 6 renewals, 19 juniors, and 12 life members. This is a significant drop from the 160 members reported in January due to a dropping of members who have still not paid their dues. If you are a member, intend to stay a member, but have not yet paid your dues, please do so post haste. Dick Grier Sr. pointed out that in past years, members were canvassed by phone, which amounted to an additional 20%-30% paying dues owed. He would like to see this practice continued this year rather than simply removing members from the list. Rick volunteered to look into this.

Newsletter: Rick complimented Editor Gerald Elgert on the newsletter. Gerald mentioned the challenge of getting the well received poem to fit on one page. He reported he has received compliments on the club’s newsletter from other sources as well. Gerald would also like to consider adding a fossil of the meeting/newsletter for the future. Rick mentioned how fortunate MGS is to have prolific writers, but encouraged more members to contribute. Gerald added that the club is very strong in members contributing original articles.

Website: Daryl Serafin reported he had finished updating the website last night. He apologized for delays in updates.

Field Trips: As discussed last meeting, Rick Smith is interim field trip coordinator, but will rely on members to put together and run field trips through him. If anyone is interested in taking on field trips, please contact Rick. One member announced wanting to go to North Carolina if anyone else is interested. Rick asked for such information to be
added to newsletter. Yesterday, MGS members went Odessa, Delaware to collect Pleistocene silicified cypress and most of the pieces found were small, but one 12” specimen was found on top of a mud pile. After lunch, collecting shifted to the nearby C&D canal for cretaceous fossils. There was another club from Pennsylvania also collecting, so the site was very busy. None the less, everyone found fossils, including a larger belemnite, and had a good time. Other upcoming trips include those to the Maryland Dinosaur Park (April 2) and Red Hill (April 30). There are 15 slots available for the Red Hill trip. Bob Asreen is setting up this trip. Red Hill involves climbing and anything significant gets turned over to museum. Gerald also plans on going to the Swopes farm site the first of May. The Lee Creek site remains closed to collecting at this point. If anyone is interested, the Virginia Museum of Natural History also offers various trips. Contact Rick Smith for further information if interested.

Ways & Means: Dick Grier, Sr. had nothing new to report for the club’s ways and means.

Old Business: Mel Hurd provided a detailed update of the ongoing MGS 20th anniversary party planning. The goal for today’s meeting was select to among options for venue, dates, and time. Michael Hutchins has graciously offered his house in Silver Spring, a place that would be good for a cookout. Mel noted we could cater the event or do ’pot luck’ where everyone brings a dish and the club contributes meat and sodas. Since the club has funds for this event, Mel would prefer to see a catered event. Furthermore, Mel suggested an afternoon time, e.g. 2-6 p.m., would probably be best for attendance. Discussion was followed by a show of hands clearly favoring holding the event on a Saturday, with a nearly 2-1 majority. As for the date, a show of hands was nearly unanimous for a September 24 afternoon event. As for help in organizing the food/catering aspect, Marge Noel and Cindy Lohman volunteered to assist Mel. In other business related to the 20th anniversary, Mel proposed an update to the MGS logo reflecting the 20th anniversary. [Editor’s note: See articles on the MGS logo elsewhere in this issue.] Discussion clearly favored Mel’s idea. Mel has made initial contact with potential suppliers for T-shirts, pins, etc. and is working on getting cost estimates for such items. In e-mails to Mel, members have requested club pins with rockers. Mel would also like to see an MGS windbreaker with embroidered club logo. This opened up the question as to a club color. In the past, medium blue was frequently used, but also have green and some yellow. Mel asked the club if an official color should be adopted? Discussion was divided on this topic and culminated with putting this in the newsletter with a request to e-mail opinions and suggestions to Mel. Additionally, Mel is still looking for ideas regarding entertainment, program, etc. for the 20th anniversary event. These ideas will be the topics for discussion and vote next meeting. Discussion of this topic closed with Rick thanking Mel, Michael, and volunteers for their efforts so far.

New Business: Rick asked for volunteers to help with scout group events on June 20-24 and Aug 1-5. If anyone is interested in dinosaurs and willing to contribute, please contact Rick. As a fallback, Rick pointed out that he could probably get Peter Kranz involved. The annual EFMLS meeting is coming up in Syracuse this July. There is a request for MGS to again send a display. Gary and Cindy Lohman, who contributed an MGS Miocene display to such shows in the past, agreed to assemble a display for this show/meeting. Gerald also volunteered to represent MGS at the annual meeting.

Dick Grier Jr. reminded club members of the upcoming Chesapeake Gem & Mineral show on May 21st at Ruhl Armory. Several members have already requested tables for selling at this event. Dick pointed out that one does not have to be a licensed dealer to sell at this venue. Cost is $35 per table. Electricity is limited to 30W per table. Dave Andersen shared an e-mail he received from an individual in Poland who does lapidary work and has his own catalog. If anyone is interested in seeing the work/products, contact Dave. The MGS journalism awards were presented. The MGS Board of Directors nominates and votes on these awards during its January meeting each year. First place was awarded to Garrett Cooper for his excellent scuba diving article. Michael Hutchins was recognized for outstanding contributions in 2010. Bruce Hargreaves, Don Greaves, and Brady Hamilton were also recognized for their contributions. Steve Grossman wanted to thank the club for the card and MGS members for their thoughts after he suffered a heart attack in January.

Mineral of the Meeting: Bob Farrar presented the mineral of the meeting talk on Brazilianite.

Speaker: Gerald introduced Cari Corrigan, Smithsonian scientist, who gave a talk on "Antarctic Meteorites." [Editor’s note: An overview of the talk appears elsewhere in this issue.]

Adjournment: Following the talk, the meeting was adjourned.
Thank You for Recent Donations

Dick Grier, Sr.

Susan Marcus:

a. Anchistrum wheeleri: Pennsylvanian sea cucumber, Mazon Creek Fossil, Pit 11, Braidwood, IL

Dick Grier, Jr.:

a. Cretolamna appendiculata: Liverpool Point, MD
b. Striatolamia striata: Liverpool Point, MD
c. Praecardium multiradiatum: Devonian pelecypod, Capon Bridge, WV
d. Carcharias hopei: Liverpool Point, MD
e. Myliobatis dixoni: Liverpool Point, MD
f. Bembexia ella: Devonian gastropod, Gore, VA
g. Chalcocite: Flambeau Mine, WI
h. Diplomystus dentatus: Eocene Green River fish fossil, Kemmerer, WY
i. 2 Teleost Vertebrae: Lee Creek, NC
j. Cobaltocalcite: Bou Azzer, Morocco
k. Calcite: Gunagxi Zhuang, China
l. 2 Magnetites: Er Rachdia, Morocco
m. 4 Fluocerites: Colorado
n. Cavansite: Poona, India

Evangeline Voultsis donated $5.00.

Thank you. Donations are important for the financial well-being of the club. Items donated are used in the annual and silent auctions, and for door prizes.

Field Trips

Rick Smith, Interim Field Trip Coordinator

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. Everyone will be required to sign a Release Form. The form will need to be turned in to the Field Trip Leader or a copy needs to be on file with the Field Trip Coordinator. You can bring your form to me at any of the meetings, mail it, or email the form to me. Once you have a copy on file, the Field Trip Leader can just contact me for verification.

If you have questions, suggestions, or might be interested in leading a trip, please contact me via email at rick.smith.mgs@gmail.com or by mail at 1253 Brewster Street, Baltimore, MD 21227, or call me during evening hours at 410-247-3961.

I would like to make a special thank you to John Wolf, Gerald Elgert, and Bob Asreen for acting as Field Trip Leaders over the past couple of months.

There are no currently scheduled MGS trips planned at this time.

News from Lee Creek, NC: The PCS Mine in Aurora, NC has canceled all fossil collecting for the spring of 2011 due to safety concerns associated with the reconfiguration of the mining activities. Mine officials will make a determination for a possible fall collecting season sometime this summer.

Virginia Museum of Natural History field trips: The museum offers trips that are lead by the resident staff and they charge a modest fee. The 2011 schedule has been posted and the information can be found at http://www.vmnh.net/index.cfm/topic/field-trip-adventures.
Muirkirk Dinosaur Park
April 2, 2011
Gerald Elgert

Muirkirk just continues to amaze. A few weeks previous to the MGS trip there on April 2nd, Dinosaur Park volunteer Dave Hacker had found the coprolite of a fresh water shark. This was a new species for the site. Then on April 2nd, new MGS member Corliss Glennon found a second specimen. That find started everyone else including Sara Tangren and Ambush Goeloe to looking for another. Like most newcomers to the hobby, finding anything significant at Muirkirk the first time is improbable. Corliss showed that she had the eye for such things. Other finds included a metasequoia cone before the rain forced a retreat to our vehicles. Pictured are: Gerald Elgert, Sara Tangren, Corliss Glennon and Ambush Goeloe. (Photos by Gerald Elgert).

Combined Field Trip to C&D Canal and Odessa
March 19, 2011
John Wolf

Bob Ertman of the Calvert Marine Museum Fossil Club (CMMFC) sponsored a combined field trip on March 18th to the Pleistocene petrified wood site near Odessa, Delaware and the Cretaceous Chesapeake and Delaware Canal (C&D) spoil piles site near Chesapeake City. Bob had invited members from the Delaware Valley Paleontological Society (DVPS), the Maryland Geological Society (MGS), the Delaware Valley Earth Science Society (DVESS) and the West Virginia Fossil Club (WVFC) to join in a Spring Break Fossil Jamboree. All counted, 43 people attended including new MGS members Sara Tangren and Rodrigo Mesquita.

The first locality we visited was the Odessa petrified wood site. The site has seen a lot of recent interest as it is rapidly being covered by the construction of not just one, but three public grade schools and an athletic complex and playing fields. Our fossil expeditionary force quickly invaded the area. Although the ground was muddy, “mud everywhere” remarked Sara Tangren, everyone was rewarded with finding some nice specimens of silicified Pleistocene cypress wood. MGS member Rodrigo Mesquita found some very nice samples and accurately questioned if some of the petrified wood was something other than cypress. This subject is an ongoing debate among seasoned Odessa collectors but as a newcomer, he was very perceptive in bringing up this question.
We next convoyed over to the C&D Canal where the usual belemnite suspects were found, along with some other interesting finds. Belemnites were once called "The Devil’s Needle" by early settlers in the area and were thought to have been formed when lightning struck the ground. Now we know them to be the internal skeleton of a squid-like creature. Joint MGS member (with the CMMFC), Pam Platt, found a well preserved *Squalicorax* shark tooth and a *Pecten venustus*, a scallop with both valves intact, a rarity for the canal. Sara Tangren was an astute student of the many Show and Tell sessions of C&D fossils at the MGS meetings and was quickly identifying fossils for everyone.

I wish to thank Bob Ertman of the CMMFC for successfully organizing this trip and graciously inviting other clubs to share in the experience. It was a good day for fossil collecting and paleo bonding. A few of us even managed to cook some hot dogs over a camp fire. While the ants may have been missing from our picnic, the fossils sure weren't.

(All photos of the wood and John Wolf and Sara Tangren by Rod Mesquita).

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**Highlights of the Upcoming Aurora Fossil Festival**

**Rick Smith**

The 18th Annual Aurora Fossil Festival in Aurora, NC, will be held on May 27, 28 and 29, 2011. Some of the highlights are listed below:

- **Friday, 6:00 PM** - crowning of the Fossil Master/Grand Marshall.
- **Saturday, 10:00 AM**, Mark Renz presentation titled "Desert Sharks", about inhabitants of a Peruvian deep saltwater lagoon dating 5-10 mya.
- **Saturday, 11:00 AM**, parade along the streets of Aurora.
- **Saturday, 11:00 AM - 4:00 PM**, Potash Corp will offer free tours of the phosphate mine.
- **Saturday, 12:00 PM**, MGS member George Powell presentation titled "A Whale of a Challenge", about the preparation of large Yorktown whale by George and a team of volunteers from the Aurora museum.
- **Saturday, 1:30 PM**, Mark Renz presentation titled "Giants in the Storm" about the La Belle Highway Pit excavation where approximately 2,000 mammal fossils dating to about 0.5 mya were recovered for the Florida Museum of Natural History.
- **Saturday, 3:00 PM**, the Annual Fossil Auction, bids can also be placed via phone.
- **Saturday, all day**, Fossil vendors set up throughout town, the Community Center will have fossil displays, and scientists from the North Carolina Museum of Natural Sciences, Smithsonian Institution, and Virginia Museum of Natural History will be on hand to help identify specimens. Mineral specimens can be collected at the Schiele Museum sluice.
- **Saturday, all day**, kids can enjoy a carnival, petting zoo, games, fishing contest, and have a chance to dig and keep shark teeth from various fossil piles around town.

More information and latest updates can be found at: [http://www.aurorafossilmuseum.com/](http://www.aurorafossilmuseum.com/) under the Events heading.
Dr. Cari Corrigan on the Search for Antarctic Meteorites
Jim Stedman

Though meteorites fall randomly around the world, the Antarctic continent turns out to be a particularly favorable environment for finding these visitors from outer space. Geologist Cari Corrigan from the Department of Mineral Sciences at the Smithsonian's National Museum of Natural History took MGS members at the March meeting on an amazing journey with the Antarctic Search for Meteorites Program (ANSMET). Unofficially the curator of the Smithsonian's meteorite collection, Dr. Corrigan joined the hunt for meteorites in the Antarctic during the 2002 and 2005 seasons and recounted her experiences on those arduous trips. Each season, which lasts 12 weeks, begins with a flight to Christchurch, New Zealand, followed by an outfitting for the cold weather at the clothing distribution center at the Christchurch airport, and then a six-hour flight in a LC-130 military cargo plane to McMurdo Station, Antarctica. During their first week at McMurdo, participants are schooled in rescuing someone from a crevasse in the ice, driving snowmobiles, navigating snowy and icy slopes, and pitching tents. Then, it’s on to the search sites.

A number of factors favor Antarctica as a collecting “ground” for meteorites, including the color of the surface, as well as movement of the ice sheets. Members of the search team focus on blue ice fields where compression of the ice has driven out the oxygen leaving clean, clear ice which is truly deep blue as Dr. Corrigan’s photos brilliantly attest. Any rock on this surface stands out prominently and, in such areas, it is likely that any such rock has arrived through the atmosphere. Importantly, natural processes in Antarctica can lead to concentrations of meteorites. The sheer weight of the ice causes ice sheets to slide out toward the edges of the continent, carrying their meteorite cargo. Where the shifting ice sheets encounter mountain ranges, they slow down and are then swept by the dry katabatic winds. The winds cause the ice to sublimate, exposing the build-up of meteorites that the ice sheets had been carrying.

The discovery of a meteorite in the field sets in motion a process that includes taking a picture with a scale bar, assigning a field number, establishing a GPS location, securing the meteorite with tongs and placing it in a Teflon bag (nylon bags are out because they are organic and might contaminate the meteorite, ruining analysis for extraterrestrial amino acids), compiling field notes describing the find, and then storing it in a cooler. Why the cooler? Each meteorite is kept frozen for the entire journey back to the United States in order to prevent snow or ice on the meteorite from melting and causing rusting.

Since 1976, the Antarctic Search for Meteorites Program (ANSMET), a joint program involving NASA, NSF, and the Smithsonian, has collected nearly 20,000 meteorites. Meteorites are classified into various types based on the minerals they contain, their chemistry, and their texture. The most common are the chondrites, believed to be the solar system’s oldest known objects. Rarer are the achondrites which originate in asteroids; meteorites in a smaller subset of the achondrites are lunar or Martian in origin. The Smithsonian role is to curate and classify the meteorites, and then make them available to researchers throughout the world. During the last 5 years, the Smithsonian has classified about 6,000 of the meteorites.

We thank Dr. Corrigan for her vivid descriptions of the rigors of searching for meteorites in Antarctica, and her explanation of the value of meteorites which are our primary source of extraterrestrial material.

Further information on the search for meteorites in Antarctic can be found at the ANSMET website at http://geology.cwru.edu/~ansmet/ (Photo by Gerald Elgert).

Fossil Turtles ~
Talk by Dr. Robert Weems at the May Meeting

Dr. Robert E. Weems, geologist with the U.S. Geological Survey, will deliver the talk at the joint MGS/AFF meeting in May. His topic will be "Fossil Turtles of the Mid-Atlantic and Southeastern States." Dr. Weems has written extensively on vertebrate fossils, including Paleocene turtles. Of particular note for some MGS members are his publications on dinosaur ichnofossils from Maryland and Virginia.
Dates to Remember

Sunday, May 15th – Joint MGS/AFF 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.

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

Dr. Robert Weems will speak on fossil turtles.

The Rostrum
Gerald Elgert, Editor
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Silver Spring, Maryland 20901

First Class Mail