Summer is almost upon us, and it is time to enjoy the great out-of-doors. This we do by visiting our favorite mineral and fossil collecting sites. Lee Creek season is almost over, and it has been, at least for my family, very productive. I hope that it was productive for you as well. Our T-shirt and hat sales have been profitable, and together with this year's dues money, the MGS now enjoys a burgeoning Treasury. The MGS sponsors field trips year round, so watch for them as they appear in the Rostrum. The upcoming 2nd Annual Picnic on June 5th should be great fun, as well as an important fund-raiser. Please plan to attend. Our membership continues to increase, and this we look upon favorably. Don't forget to let the Editor know if you do something or find something interesting this summer.

MGS meetings are held bimonthly, beginning in January of each year. Meeting dates are TBA in the Rostrum, since the meeting hall can only be contracted 2 months in advance. Meetings begin promptly at 12:00 pm on the date specified at the Freestate Mall Community Room, Bowie, MD on Md. Rt. 450.

MEETING: The date of the next MGS meeting is July 18, 1993.

PROGRAM: The program for this meeting will be "Paleoecology of the Carcharodon" presented by Bob Purdy, NMNH.

☆ The Editor and the Maryland Geological Society, Inc. are not responsible for the accuracy or the authenticity of information in articles accepted for publication, nor are the opinions expressed therein necessarily those of the Society or Editor.
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MARCH 21st MGS MEETING

by Eric N. Beach 4/6

The March 21st meeting of the Maryland Geological Society was held at the Freestate Mall Community Room in Bowie, Maryland. The meeting was called to order at 1:32 pm by President Dick Grier, Jr with 28 members in attendance.

Secretary Eric N. Beach read the minutes, which were accepted as read. Russell Cox reported that the Treasury balance was $150.41. The low balance was caused by payment of AFMS and EFMLS annual dues and the outlay of money to purchase T-shirts and hats. Sales of the latter should help restore the balance somewhat.

Field Trip Chairman Bob Grier announced a trip to the Genstar Quarry at Texas, Maryland on March 27, 1993. The Lee Creek trip will be held on April 10, 1993. All of the seats are filled. If you cannot make the trip, but have a spot, please cancel as soon as possible because there is a waiting list. Membership Chairman Dick Grier, Sr. reported that there are currently 114 adult members. February brought 26 new members.

Hospitality Chairman Terry O'Neil welcomed guests Dr. Thomas Sidor, Bill Balboni and Gerry Frankil and son.

The Rostrum Geoscience Puzzle winner was Bob Farrar.

A club brochure was designed by Dick Grier, Jr. and printed by Chuck Ball. This will be used for the purpose of disseminating information about the club and attracting new members.

Back issues of the Rostrum are now available. It was originally announced that the price would be $1.50 per copy. (This is no longer true. Prices of back issues will reflect the costs of reprinting. Contact Dick Grier, Sr. for details).

A club roster will be distributed to the membership, beginning at the May 23rd meeting.

The MGS extended its thanks to Neil Hoffman for the excellent job he did in ordering and procuring the T-shirts and hats. Shirts are $9 and hats are $6. When our supply dwindles, we will reorder more shirts and may offer more colors and children's sizes. Sale by mail will be made available to out-of-state members and will reflect the unit cost plus shipping and handling.

President Dick Grier, Jr. will be purchasing a typewriter with club funds (as agreed to by the Board of Directors). Jim Earman is building a computer system for the club, which will enhance the publication of the Rostrum.

The MGS will have a booth and a display at the Goucher Swap/Sell on May 8, 1993. Please contact Dick Grier, Jr. if you have specimens to display. Please plan to attend and help at the club booth.
Dick Grier, Jr. acted as a BEAC Judge for the 1992 EFMIS Bulletin Editor's Competition, and plans to use ideas gained through this experience to improve our already fine publication.

Chairs keep disappearing from the Community Room, and the mall management has no plans to replace them. Bob Grier asked that members consider bringing in a folding chair in case the problem gets worse.

Members Carol Moorefield and Barbara Warnock are opening a shop called Cauldron Crafts. The shop is located at 1520 Caton Center Drive, Suite E in Baltimore. Gary White mentioned that they have an excellent selection of tools. Please plan to attend their Open House on Sunday, May 16, 1993 for Club Day. A 10% discount will be offered to card-carrying club members.

Dick Grier, Sr. conducted the raffle. The winners were: Patty Lewis, Jerry O'Neil, Neil Hoffman (4), Phil Greenberg, Gerry Frankil, Bill Balboni and George Powell.

George Powell and Dr. Bretton Kent will present a program on their Parotodus benedeni find at the AFF meeting on May 16, 1993 at the Bowie Recreation Center at 10:00 am. (This has subsequently been changed to June 13, 1993 at the University of Maryland Auditorium from 12:30-3:00 pm). George has invited the MGS and the CMMFC to participate.

Program Chairman Bob Grier introduced our guest speaker Dr. Peter Krantz and his program "Dinosaurs of Maryland."

The meeting was adjourned at 3:01 pm.

**MEETING DATES AND THEMES FOR 1993**

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<th>Tentative Date</th>
<th>Mineral</th>
<th>Fossil</th>
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<tr>
<td>July</td>
<td>Jul. 18*</td>
<td>Copper Mins.</td>
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<tr>
<td>September</td>
<td>Sep. 19</td>
<td>Quartz</td>
</tr>
<tr>
<td>November</td>
<td>Nov. 21</td>
<td>Phosphates Arsenates Vanadates</td>
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* Confirmed dates. The July meeting date is confirmed; the remaining dates are tentative. Announcements of confirmation will be made as they occur.
MGS PUBLICITY AND MEMBERSHIP DRIVE

by Dick Grier, Jr. 5/12

The MGS kicked off a publicity and membership drive at the Goucher Show, sponsored by the Chesapeake Gem & Mineral Society of Baltimore, Maryland on May 8, 1993. The club had an information booth and a display with finds made by our members. The MGS obtained 12 new members at the show, and, additionally, 10 applications were given out to prospective members.

The MGS also sold 10 T-shirts and 6 hats at the show. Total receipts to the club Treasury for the outing were $251.00.

The T-shirts were admired by many at the show (many favorable comments), and the display case was one of the best present.

The officers of the MGS would like to thank all who donated specimens to the club display as well as those who donated their time to make the information booth a success.

T-SHIRT COMMITTEE REPORT

by Dick Grier, Sr. & Neil Hoffman 5/10

The T-Shirt & Hat Committee reports that as of May 10th a total of 44 T-shirts and 29 hats have been sold. Sales have been held at our March meeting, at our April 10th trip to Lee Creek, at our trip to Gore, Virginia, and at the Goucher Show on May 8th.

If you would like to purchase a T-shirt or hat, please contact Dick Grier, Sr. at (410) 285-5554. Shirts are $9.00 and hats are $6.00 to members.

PERSONAL NEWS

by Dick Grier, Jr. 5/9

***Debbie Burdette recently went collecting at the phosphate pits and at Apollo Beach in Florida. She returned with a handsome collection of Equus and Nannipus horse teeth and quite a few Carcharodon carcharias.

***Les Heinzl and Ron Ison attended the MAPS Show in April and made many interesting acquisitions. Ron recently had some of his for sale.
SAFETY MESSAGE  
by Dick Grier, Jr. 5/10

Safety is an important consideration during all MGS activities. Soon the MGS will begin to appoint a safety officer on each field trip. The safety officer will watch for violations that may occur on the trip and warn the parties involved. He will be empowered by the Society to act in this regard. The safety officer will be different for each trip. We have been fortunate, thus far, in having a reasonably safe group of level-headed people. We expect that this will continue.

LAB HINT  
by Dick Grier, Jr. 5/10

PVA, polyvinyl acetate, is an excellent preservative for fossils and is one of those in use at the NMNH. PVA is a white, crystalline powder which can be diluted with acetone to make a solution of the desired thickness. The solution can be painted on a fossil with a brush, and will harden in a few hours. If it is desired to remove the preservative, simply soak the specimen in pure acetone. Be careful when working with acetone. Avoid breathing the vapors and try to avoid skin contact. Use in a well-ventilated room away from any possible source of ignition.

1993 MGS OFFICERS

**PRESIDENT**
Dick Grier, Jr., 8052 Kavanagh Road, Baltimore, Maryland 21222  
(410) 285-5554

**VICE-PRESIDENT**
Bob Grier, 8052 Kavanagh Road, Baltimore, Maryland 21222  
(410) 285-5554

**SECRETARY**
Eric Beach, 1610 15th St. NW, Washington, DC 20009  
(202) 387-1710

**TREASURER**
Russell Cox, 2902 Fifth Avenue, Baltimore, Maryland 21234  
(410) 668-3383

**MEMBERSHIP**
Dick Grier, Sr., 8052 Kavanagh Road, Baltimore, Maryland 21222  
(410) 285-5554
ISURUS ESCHERI DISCOVERY

by Dick Grier, Jr. 4/28

While at the Lee Creek Mine on March 6, 1993, I chanced to find a perfect 2 1/4 in. *Isurus hastalis* lying completely exposed on a pedestal of sediment (Yorktown Fm., Middle Pliocene, approx. 3 mya). Not thinking that anything significant had been found, I continued to search for the elusive "big tooth".

Later, in the Texasgulf parking lot, I showed the tooth to Dr. David Ward of the TRG (Tertiary Research Group) in England who was visiting with several of his colleagues as guests of the Hyne family. Dr. Ward looked at the tooth, and then said in an astounded manner, "Look, it has serrations". He explained to me that *Isurus escheri*, the intermediate form in the *Carcharodon carcharias* lineage has such serrations, and is known only from Europe. He said that he had never seen one from North America.

I, of course, was elated and showed my find to some of my collecting friends, who said that they were going to search through their makos to see if they might have found one.

MINERAL SPECIMENS OF DR. MEDICI

by Dick Grier, Jr. 4/26

In the January/February 1993 Issue (Vol.68, No.1) of Rocks and Minerals magazine, is an article entitled "Garnet" by Peter J. Modreski (pp.20-33). In this article there are photographs of several of the minerals in the collection of member Dr. John Medici. Included are a 3 cm trapezohedral almandine crystal from Avondale, Delaware Co., Pennsylvania; a 6 cm spessartine crystal from Minas Gerais, Brazil; and a 5.3 cm almandine crystal from Larimer Co., Colorado. Also contained in the article are several photographs taken by Dr. Medici, including one of a garnet projectile point found near Bainbridge, Ohio in 1989. The article is both interesting and technical. It is well worth your time to read.

1993 MGS ROSTER OUT

New 1993 MGS Rosters were mailed out with the June Rostrum. This year's roster indicates the collecting preference of each individual, as discussed at the January meeting.
CLUB CALENDAR

by Dick Grier, Jr. 5/12

Field Trips, see Trip Schedule (this issue).

June 5, Sat., 2nd Annual Picnic & Swap/Sell at Matoaka Cottages; 9:30am, $3.00 admission. See Trip Schedule for details and map.

June 19, Sat., Class on Shark Teeth Identification by Dick Grier, Jr., at the Grier residence, 8052 Kavanagh Road, Dundalk, MD at 2:00pm. Call-in after 6pm to Dick Grier (410) 285-5554 on Tuesday, June 8.

NEWS OF OTHER CLUBS

by Dick Grier, Jr. 5/13

The Chesapeake Gem & Mineral Society of Baltimore, Maryland is back in "show business". After approximately 15 years of "showlessness", they, once again, have their own club show. On May 8th they sponsored the Goucher Swap/Sell at Goucher College, Towson, Maryland. It was a fine show, and we wish them luck in the future.

National Capital Fossil Society President Fred Plumb announced recently that the DC-based club would be restructured. Not only is an administrative reorganization in order, but we can expect newsletters, field trips, and T-shirts.

CLASS AND STUDY GROUP ON SHARK TEETH

by Dick Grier, Jr. 5/13

Dick Grier, Jr. is planning to lead a class and study group on shark teeth and their identification at the Grier residence, 8052 Kavanagh Road, Dundalk, Maryland at 2:00pm on Saturday, June 19. The group will be for neophytes and intermediate level collectors. If you are interested in attending, please call Dick Grier, Jr. on June 8 (Tuesday) after 6pm at (410) 285-5554.

ADVERTISEMENT

Anyone who is interested in selling or trading bird bones from Lee Creek is urged to contact George Powell (703) 893-7856.
PROGRAM FOR JULY MEETING

by Bob Grier, 5/18

The program for the July 18th meeting of the MGS will be presented by Bob Purdy, Museum Specialist with the NMNH in Washington, DC. The program will be entitled "Paleoeconomy of the Carcharodon". Please make it a point to attend.

DINOSAURS IN MARYLAND--DR. PETER KRANTZ

Special thanks go out to Dr. Peter Krantz for our March program "Dinosaurs in Maryland". The talk was very informative, and was attended by many members of the AFF. We hope to be able to reinvite Dr. Krantz in the future.

ZEOLITES OF NOVA SCOTIA--HERB CORBETT

The MGS also wishes to extend its thanks to Herb Corbett, world-famous micromineralogist, who presented a program on the "Zeolites of Nova Scotia" at our May meeting. The program was very well-done, and enjoyed by all of our members.

PRESBYORNIS ISONI

by Dick Grier, Jr. 5/18

MGS member and Contributing Editor Ron Ison was recently honored by having a fossil named after him. Ron had been collecting in the Late Paleocene age Aquia formation at Liverpool Point, when he uncovered some bird remains in situ in the cliffs. He presented the fossils to Dr. Storrs Olson of the NMNH in Washington DC, who, after study, told Ron that he had discovered a new species of bird which is the precursor of ducks, geese and swans. It was named Presbyornis isoni n. sp. Congratulations go out to Ron, and may the same thing happen to all of us.

MORE ON BIRD BONES

by Dick Grier, 5/21

George Powell recently loaned some Lee Creek bird bones to the NMNH for study that were found last Fall. Dr. Storrs Olson studied them and determined that one of them is from a small tropical bird hitherto known in the fossil record only from below the equator. Updated information will follow.
An Editor's Dilemma

by Helen Ladd

I sat at my typewriter thinking...

What articles for the bulletin can I print?

I thought I'd get something of interest,

But no articles to me were sent.

I looked carefully through Exchange Bulletins

And gratefully borrowed a few;

Just hoping to make the bulletin newsy

And much more enjoyable for you.

The bulletin does take time and effort

And pride goes in it as well,

But your news is what is needed

Of anything you would like to tell.

I know each of you have a talent,

No matter how big or small...

That you can share with each other

Of interesting events you recall.

So won't you please do me a favor

And send a news item or two...

You will help to better your bulletin

And members will enjoy hearing from you.

Have a great summer!  CW

from Chats and Chips
## MINERALOGY AND CHEMISTRY CROSSWORD

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<th>Down</th>
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<tr>
<td>1. var. of andalusite, $\text{AlSiO}_3$.</td>
<td>1. oxide mineral with hardness 9.</td>
</tr>
<tr>
<td>2. sun.</td>
<td>2. climbing vine.</td>
</tr>
<tr>
<td>3. mineral with formula $\text{Sb}_2\text{S}_3$.</td>
<td>3. a precious metal.</td>
</tr>
<tr>
<td>4. common extrusive rock.</td>
<td>4. opposite of in.</td>
</tr>
<tr>
<td>5. pronoun.</td>
<td>5. symbol for einsteinium.</td>
</tr>
<tr>
<td>6. common tectosilicate mineral.</td>
<td>6. symbol for antimony.</td>
</tr>
<tr>
<td>7. aggregate of protons &amp; neutrons.</td>
<td>7. upon.</td>
</tr>
<tr>
<td>8. suffix denoting a sugar.</td>
<td>8. supple.</td>
</tr>
<tr>
<td>9. mineral with formula $(\text{Mn,Ag,Cal})_2\text{Mn}_2\text{O}_7\cdot 3\text{H}_2\text{O}$.</td>
<td>9. symbol for cerium (rare earth).</td>
</tr>
<tr>
<td>10. symbol for rubidium.</td>
<td>10. phalanx.</td>
</tr>
<tr>
<td>11. mixture of atmospheric gases.</td>
<td>11. beverage.</td>
</tr>
<tr>
<td>12. inventor of mineral hardness scale.</td>
<td>12. craggy peak.</td>
</tr>
<tr>
<td>13. mineral with formula $\text{BiCu}_2(\text{AsO}_4)_2(\text{OH})_6\cdot 3\text{H}_2\text{O}$.</td>
<td>13. iron var. of wolframite $(\text{Fe,Mn})\text{WO}_4$.</td>
</tr>
<tr>
<td>15. solemn.</td>
<td>15. bending of light at an interface.</td>
</tr>
<tr>
<td>16. rhombohedral carbonate mineral.</td>
<td>16. var. of diopside, $\text{CaMgSi}_2\text{O}_6$.</td>
</tr>
<tr>
<td>17. top.</td>
<td>17. to file.</td>
</tr>
<tr>
<td>18. symbol for titanium.</td>
<td>18. molten rock from mantle.</td>
</tr>
<tr>
<td>19. grab or arrest.</td>
<td>19. hydrated silicon dioxide with play of colors.</td>
</tr>
<tr>
<td>20. coauthor of Dana's System of Mineralogy.</td>
<td>20. salt, $\text{NaCl}$.</td>
</tr>
<tr>
<td>21. silver antimonide mineral, $\text{Ag}_3\text{Sb}_2$.</td>
<td>21. mineral with formula $\text{H}_2\text{O}$.</td>
</tr>
<tr>
<td>22. ferromagnetic metal.</td>
<td>22. symbol for iridium.</td>
</tr>
<tr>
<td>23. metric unit of mass (wt.).</td>
<td>23. metric unit of mass (wt.).</td>
</tr>
<tr>
<td>24. symbol for cadmium.</td>
<td>24. symbol for cadmium.</td>
</tr>
<tr>
<td>25. symbol for sodium.</td>
<td>25. symbol for sodium.</td>
</tr>
<tr>
<td>26. indefinite article.</td>
<td>26. indefinite article.</td>
</tr>
<tr>
<td>27. symbol for bismuth.</td>
<td>27. symbol for bismuth.</td>
</tr>
<tr>
<td>28. symbol for beryllium.</td>
<td>28. symbol for beryllium.</td>
</tr>
<tr>
<td>29. symbol for nickel.</td>
<td>29. symbol for nickel.</td>
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</table>

Dick Grier 5/17
SMITHSONIAN FUND
by Dixie Lee Alf, Treasurer

Since January 1, five clubs have contributed to the AFMS Smithsonian Museum Fund. They are:

Rhode Island Mineral Hunters, Inc, Pawtucket, RI
Hells Canyon Gem Club, Inc, Lewistown, ID
Gates Rock and Mineral Club, Arvada, CO
Northern Virginia Mineral Club, Inc, Falls Church, VA
Driftless Area Gem & Mineral Club, Inc, Tomah, WI

We now have $2,143 in the Fund. Themonies are in an interest bearing checking account and are climbing slowly. Let’s see more clubs contributing to this worthy cause.

E.F.M.L.S. CLUB SHOWS AND SWAPS

To have your club event listed in the DIGEST, send all information to Mary Lee Price 420 Heatherwood Media PA 19063.

APRIL
24-25: New Jersey Earth Science Assoc. 21st Annual Show, Rec. Center, Wm. Patterson College, 300 Pompton Rd; Wayne, New Jersey
24-25: Kanawha Rock & Gem Club, Inc. Annual Show. S. Charleston Comm. Center, S. Charleston, West Virginia

MAY
14-16: 19th Annual All Georgia Gem & Mineral Society Show. Westgate Mall, Pio Nomo Av. at Eisenhower Pkwy; Macon, Georgia.

JUNE
17-19: South Central Federation Show, Univ. of Texas, Arlington, TX
25-27: California Federation Show. Ventura Fairgrounds, Ventura, CA

JULY
10-11: 27th Annual Gem World ’93. New York State Fairgrounds, Rt 690; Syracuse, NY

July 30-August 1
1993 EFMLS Convention & Show
Hampton Coliseum
Hampton, Virginia

Denver Convention & Show

Information packets about the combined AFMS/RMFMS to be held in Denver from September 16-19 will be mailed to Federation officers about April 1. If anyone else wishes to receive a packet of show information (exhibitor forms, motel & camping info, banquet info, field trips, etc) please contact the Denver Gem & Mineral Show, P.O. Box 621444, Littleton, CO 80162.

Flying in? Discount fares, lower than the lowest published rates, have been arranged with Continental Airlines. Call 1-800-468-7022, specify Event Code Z130.
BOOK REVIEW


Probably the finest and most technical book currently on the market for students of Elasmobranchian taxonomy. An expensive investment, but worth the price. Volume 3B is one of 11 volumes in the series, which includes volumes dealing with agnaths, placoderms, actinopterygians, crossopterygians, acanthodians, etc. Volume 3B deals exclusively with Cenozoic and Mesozoic sharks, skates and rays. Volume 3A treats Paleozoic species. The book has sections on general morphology, teeth and classification. Every fossil and extant shark and skate genus is treated in some depth. Pictures of representatives of each genus and their teeth (153 figures) are included. The pictures are scientific line drawings and are of good quality. The style is very technical and is that of an overview of the selachian genera. This book is a must for the advanced tooth collector.

Dick Grier, 5/15

NEW BOOKS


Gem & Crystal Treasures, Peter Bancroft, (1984), $65 ppd. Order from Circulation Manager, Min. Rec., P.O.Box 35565, Tucson, AZ 85740.


Dick Grier, 5/15
DR. BRETTON KENT & GEORGE POWELL  

PRESENT  

A LECTURE & DISPLAY OF 103 ASSOCIATED PAROTODUS TEETH  

Dr. Bretton Kent, professor of zoology at the University of Maryland, and George Powell, president of the American Fossil Federation, will be presenting a joint lecture on and a display of 103 associated teeth of Parotodus benedeni Le Hon found in the Early to Middle Pliocene Yorktown sediments at the Lee Creek Mine, Aurora, North Carolina in August of 1992. The presentation affords a unique opportunity for a public display of a rare Cenozoic shark. Also on display will be a set of 13 associated Otodus obliquus Agassiz from the Late Paleocene sediments of the Ouled Abdoun Basin in Morocco (ancestral to Parotodus), and a 5"x10", 65% complete Aetobatus dentition (skate) found in proximity to the Parotodus site.

The lecture and display will take place from 12:30-3:00pm on Sunday, June 13, 1993 at the University of Maryland Large Auditorium & Lecture Hall (College Park Campus). Members of the MGS, the AFF and the CMMPC are cordially invited to attend. The presentation will take approximately 1½ hours, and will consist of about 60 slides. The dress is casual. Questions will be welcome at the end of the lecture, after which the unveiling of the Parotodus dentition will occur.

This dentition represents the largest dentition of this shark that is known. The next largest has only 15 associated teeth and is from Australia.

Members are invited to bring any "false makos", extinct makos, Alopia or Parotodus that they might have for identification and assignment of a jaw position.

George Powell, 5/21
Caldron Crafts is announcing the opening of their new warehouse at 1520 Caton Center Dr., Suite E, Baltimore, MD 21227. (Located near the intersection of Route 95 and the Baltimore Beltway (695), just south of Balto). Their new telephone number is (410) 242-7993. They will continue to do shows, which necessitates irregular hours, so the warehouse is open for special events and by appointment.

Sunday, May 16 marks a special event just for club members, their friends, and persons who wish to learn more about area clubs. The warehouse will be open from 11 am to 5 pm, and refreshments will be served. Caldron Crafts is inviting members of all area clubs to attend, meet one another and share information about their skills, their collections, their field trips, etc. This is a wonderful opportunity to learn what other clubs are doing, and what they may have to offer one another. In addition, Caldron Crafts is offering a 10% discount to all club members (bring your membership card), and a free copy of their tool catalog (a $4 value).

For those unable to attend on Sunday, the grand opening of the warehouse is Saturday, May 15 from 11 am to 7 pm, or call for an appointment and we will arrange for a time just for you.

Caldron Crafts has been the partnership of Barbara Warnock and Carol (Murf) Moorefield since 1974. They are well known show dealers, offering a variety of books, tools and equipment, fossils, minerals, display stands, cabs, and finished jewelry. They also teach wire wrapping and bead stringing. This new facility will allow them to display more of their stock, and to accommodate customers between shows. Both partners are members of several local clubs.

Directions to Caldron Crafts: Exit 95 at Caton Av. South (1 exit north of Beltway). Turn right at John Av (first light). Turn left at Vero Rd. (at UPS). Go to end of Vero Road, and turn right on Caton Center Dr. 1520 is on your left, our warehouse faces the road.

From the north take 95 South through the Fort Me Haury Tunnel (cost $1), and exit Caton Av. South or above.
FIELD TRIP HIGHLIGHTS

by Dick Grier, Jr. 5/4

The MGS trip to Liverpool Point on March 7th proceeded, despite Bob and Dick Grier being stranded in Chocowinity, NC with car problems. Pam and Bob Platt took charge and led the trip, which only 3 people attended. No major finds were made that day, but Bob Platt reported that the day was enjoyable nonetheless. Thanks to Pam and Bob Platt for leading the trip.

On March 27th, the MGS visited the Genstar quarry at Texas, Maryland which is situated in the Cockeysville Marble. Fourteen members participated, and although the Cockeysville Marble is not as heavily mineralized as is the Wakefield Marble at Medford, several good finds were made. Minerals found include dravite, pyrite, tremolite, hornblende, and chalcopyrite. Thanks go out to Page Herbert for permission to collect.

The April 10th Lee Creek extravaganza was attended by 51 members, with only 4 cancellations. The weather was beautiful, and the terrain was not as muddy as it had been previously. Becky Hyne drove us in (two busloads were required), and she took us to the site of the newest excavations. Fresh fossils! Eric Thompsen and Melissa Manwaring found 2-2 1/2 in. Carcharodont; Joe Bernstein unearthed 3 Carcharodonts ranging from 2-3 1/2 in.; Ron Harding came up with a 2 in. Parotodus; Debbie Burdette found a 2 1/2 in. Carcharodon; and Patty Lewis went bonkers; a 5 in. Carcharodon and a 2 in. Parotodus. After returning to the parking lot at 3:00 pm, it was fossil show-and-tell time as well as time for T-shirts and hats to be sold. Part of the group then accompanied Dick Grier, Jr. to the Aurora Fossil Museum, which had obliged us by remaining open for our members. The entire affair was very orderly, and was great fun for all of us. Special thanks are due to Becky and Frank Hyne and to Mary Weaks of the Aurora Fossil Museum.

Our April 17th trip to the Gore, Virginia trilobite locality was led by member Dave Fordyce. Fifteen members attended. Very little of interest was found at the Gore site per se. The Capon Bridge roadcut, however, was very productive. Many of the members found excellent enrolled Phacops rana trilobites (Devonian), and Dave Fordyce found a beautiful buried specimen with 3 trilobites on it. The MGS plans to return to this site in the future. Thanks to Dave Fordyce for leading the trip.

The trip to the Bowie Cretaceous site was attended by 6 members. Digging and screening in the Late Cretaceous Severn Fm. and Mount Laurel Sand produced a few significant finds. Fred and Kathy Parker found 2 mosasaur teeth, Bob Platt found what is probably a partial Cimoliasaurus tooth, and Dick Grier, Jr. found a 1-3/4 in. Enchodus tooth.
Notidanus primigenius, L. Agassiz, 1843. — Rupélien (Oligocène moyen).

Localités : Basel, Boom, Niel, Rumpit, Rupelmonde. — Type : Musée de Munich.

Sélaciens Astérospodyles. — Notidanidés : Genre Notidanus.

Maurice Leriche. — Poissons Oligocènes de la Belgique.
Collecting Eocene Fossil Fish From Wyoming's Green River Formation

by

Austin P. Platt and Pamela C. Platt

This past July, Pam and Bob Platt drove to Kemmerer, in southwestern Wyoming in order to visit Fossil Butte National Monument and to collect fossil fish at the renowned Ulrich Quarries. These famous fossil beds are part of the "Green River Formation" and date from the Eocene epoch between 50-60 million years before present (M.Y.B.P.). In all, the deposits are widespread, covering 34,000 sq. mi. of intermontane basin regions in southwestern Wyoming, northwestern Colorado, and northeastern Utah. In some areas these strata have accumulated to a depth of 2,000 ft. (Severns, P. & R., No date. Severn Studio & Fossil Quarry Brochure. Privately, Kemmerer, Wyo. 5 p.). They represent three complex lacustrine systems differing ecologically, structurally, and temporally. The smallest, narrowest, deepest, and most short-lived of these lakes was Fossil (Syncline) Lake, found nine miles west of Kemmerer in Lincoln Co., just east of the Utah-Idaho state line.

The Fossil Lake sediments preserved a wide variety of life-forms. These include: stromatolites, protozoans, plants (over 40 families), sponges, nematode worms, molluscs (14 Genera), and insects (14 Orders). In addition to fish, nearly perfectly preserved amphibians, reptiles, birds, and mammals also are found. The faunal list includes many delicate species such as butterflies and bats, fossils of which are exceedingly rare (Grande, L. 1984. Bull. 63, 2nd ed. Geol. Surv. Wyo., Laramie. 333 p.).

Fossil Lake existed for perhaps 5,000 years between 55-50 M.Y.B.P. During this period, the lake expanded and contracted several times. The early Eocene climate of this moist and subtropical region was warm. The habitat was lush with palms and broad-leaved vegetation, quite unlike the dry, temperate, mountainous desert which is there today. The Eocene environment was not unlike that presently found along the Gulf Coast of the U.S. (Grande, L. 1984, loc. cit.).

The Fossil Lake strata are part of the Fossil Butte Member of the Green River Formation. Within these layers are found two important fish-bearing units, often referred to as the F-1 or "18 inch" layer and the F-2 or "split -fish" layer (Grande, L. 1984, loc. cit.). Both
of these deposits were formed from fine siltation near the center of
the deep, thermally-stratified lake under cold, anoxic conditions.
Such conditions are conducive to excellent fossil formation resulting
in part from reduced decomposition. The "18-inch" layer alone
contains about 4,000 pairs of fine light-dark laminae, with each
couplet representing one year of deposition. The light buff striæ
consist of calcite (CaCO₃) limestone, whereas, the dark brownish-
black laminae represent organic materials. The F-1 unit lies within
the Upper Fossil Butte Member.

The "split-fish" unit is about 2 m thick, and (comparatively) is
only faintly laminated, consisting exclusively of light colored marls,
deposited when there was better circulation of the lake bottom
waters. The F-2 unit was laid down somewhat earlier than the F-1
unit described above, although it is exposed at the Ulrich Quarries
higher up the hillside. The F-2 fish are often smaller and less well-
preserved than are those from the F-1 layer. Virtually all of the
Green River fishes, whether found in public, private, or museum
collections, have been taken from these two sedimentary levels of
Fossil Lake.

Explorers, geologists, settlers, and Union Pacific Railroad
workers crossing this desolate region during the latter half of the
nineteenth century occasionally reported seeing (and often collected)
the flattened carbonized remains of these spectacular fossil fishes. A
number of private collectors began quarrying the fish fossils
commercially around the turn of the century. Among these people, in
sequence, were: R. L. Craig (1897-1930), D. Haddenham (1918-1970;
later with his son and grandson), C., S., & W. Ulrich (1947-present), R.
Tynsky (1970-present), and P. & R. Severns (in recent years).
Another site presently open to collectors is the Habdon Quarries,
located at Warfield Springs eleven miles south of Fossil Butte. The
Tynsky and Warfield localities include mainly the F-2 "split-fish"
unit (Grande, L. 1984, loc. cit.).

Fossil Butte National Monument was established in 1972.
Wildlife, plants, geological, and natural features within the park
boundaries are now protected by law. Permission is required (and
fees are charged) for collecting in the private quarries adjacent to the
park which are still open to collectors.

A thoroughly modern visitors center featuring truly
remarkable fossil displays and interesting videotapes about the
geology, history, fossils, and fossil collecting techniques can be seen at the National Monument. An interesting 2.5 mile walk leads up to the ancient fossil quarries on Fossil Butte. On the return walk the trail passes a small rustic tent-shaped metal "cabin" used by early fossil hunters.

Following our visit to Fossil Butte, we collected at the Ulrich Quarries. We were able to split shales for about one and one-half hours, searching for fossil fish in the F-2 "split-fish" layers. Small, fragmentary specimens were numerous, but complete, finely preserved ones were rare. Nevertheless, between the two of us, we collected a number of acceptable specimens of four genera of bony fishes. These include two ubiquitous herrings: *Knightia eoecana* Jordan (~5 in. long), the most prevalent species, and the Wyoming State Fossil, as well as *Diplomystus dentatus* Cope, the "Nobleman." The latter specimens we collected were between 3-6 in. long. This is an elongate, delicate, deep-bodied fish having a narrow tail and a long graceful anal fin; the species approaches a length of two feet when mature.

We also obtained reasonable sized specimens of the perch-like *Mioplosus labracoides* Cope, and the sunfish-like *Priscacara serrata* Cope, a round-bodied fish having prominent dorsal spines. A total of nineteen genera of fish have been reported from this unit, many of which are rare. It is illegal to keep all rare fish or other fossil specimens. These, by law, must be turned over to the State of Wyoming.

*Knightia* and other genera of schooling fishes are sometimes preserved in "mass-death" layers consisting of millions of specimens randomly scattered across specific horizontal planes within the strata. At times, such layers contain between several hundred and upwards of 2,000 individuals per square meter! One such "mass-death" layer of *Knightia* is found on Fossil Ridge at the base of the F-1 "18 inch" layer. A fine large slab, measuring ~9.4 x 5.2 ft. is on display at the visitors center at Fossil Butte National Monument (Bradley, W. 1991. Fossil Butte Nat'l Mon., Illus. Brochure. Nat'l. Park Serv., U.S. Dept. of the Interior, Washington, D.C. 8 p.).

Certain extraordinary fossils even preserve evidence of ancient food-chains within the Eocene lake. One such fossil, recovered by the Ulrichs, includes *Knightia*, a secondary consumer, swallowed by a
larger surface feeding Diplomystus, which in turn was eaten by the large voracious Garpike Lepisosteus, a primitive fish covered with protective diamond-shaped, enameled scales. The latter species is a close relative of L. spatula, the modern alligator gar of the lower Mississippi River drainage system.

Following our collecting activities we returned to the Ulrich studio where our quarry guides sawed and carefully wrapped up the specimens we had just collected. Within the modern studio itself, many beautifully prepared "one of a kind" Green River fossil fish specimens are on display (most of them for sale at prohibitively expensive prices!). However, each is truly a work of art, with some of the more spectacular ones being framed as such (see: Ulrich, W. No date. Stone Fish. Publ. privately, Jackson, Wyo. 14 p.).

During our trip we met and spoke with a number of friendly people including other fossil collectors. Those operating the various private studios and collecting quarries were both courteous and most helpful to us. Although this remote corner of Wyoming is far off the beaten path, the trip is well worthwhile in all respects. We suggest each of you go to the west some summer to visit this scenic and geologically fascinating area.
Figs. 1 - 3. Early Eocene fossil bony fish from the F-2 ("split fish") layer of Fossil Lake in southwestern Wyoming collected by the Platts at the Ulrich Quarries, July, 1992:

Fig. 1. Young Diplomystus, length = 2.5 in. (64 mm).

Fig. 2. Priscacara (left), and Knightia (right), lengths of both = 3.75 in. (95 mm).

Fig. 3. Mioplosus, with coprolite; fish length = 6.25 in. (159 mm).
PECTOLITE
by William (Bill) Gould

The first things noticeable about the pectolite specimen, that I was so fortunate to win as a club door prize, were that it had a pearly, shiny look, and its needles were sharp! The specimen should be handled as little as possible to avoid splinters.

For information about the specimen I turned to my old standby, A Textbook of Mineralogy by Edward S. Dana, published in 1877. This book was a gift from an old rockhound friend, Fred Temple, and he had it re-bound years ago.

Under the heading Hydrous Silicates we see Monoclinic, Isomorphous with Woolastonite, usually in close aggregates of acicular crystals or fibrous massive and radiated to spherellite. Hardness of 5 and Specific Gravity 2.68-2.78. I checked a small piece for Sp. Gr. and it was 2.2. (Perhaps the specimen was not pure.) Under an ultra-violet light the specimen shows a pretty yellow, indicative of sodium.

The luster of the surface is silky or glassy. The color is usually white or gray, but can be pink, or even green. It's a very tough mineral, as I found out by using pliers to break a small piece off the specimen to make the Sp. Gr. test.

Pectolite is almost always columnar or fibrous. Fibers can be 2 or 3 inches long, and in Ayrshire, Scotland they have been found to be as much as a yard long. When it is broken in the dark it often gives off a light.

In a closed tube it will yield water, and it can be fused to a white enamel. Hydrochloric acid will turn a specimen to gelatin. Pectolite can be distinguished from fibrous zoéites by the lack of blue color in the cobalt nitrate test.

Pectolite occurs in trap rock, cavities and seams, and occasionally in metamorphic rocks, and as an associate of zoéites. Specimens can cleave in two directions. Crystals are rare, and it is rarely found as a gem. There is no commercial use for pectolite.

Pectolite is found in many parts of the world, among them: Scotland, Tyrol, Russia, Italy, Quebec, and Ontario. In the United States, it can be found in New Jersey, California, Magnet Cove, Arkansas, and Isle Royale in Lake Superior.

In 1973 published a report on the geochemistry of Mt. St. Hilaire in Canada. Most of the minerals there are of a micro scale. One section explained the different periods of mineral formation, and it pinpointed the formation of many minerals including pectolite. A part of that report is printed here with their permission. I found it to be very interesting and hope you will, too.

"Geochemistry of Mount St. Hilaire and Related-Nepheline Syenite Intrusives"

"The chemistry of St. Hilaire is complex, and it is because of this that many different minerals were formed at this locality. In fact, mineral formation probably occurred during four, and perhaps more, different periods. For example, during the original magma stage, the rock-forming minerals such as the feldspars, nepheline, eudialyte and some sodalite began to crystallize, then came a second stage of mineral formation in which the dark minerals began to form. During this fluid-gaseous stage came aegirine, more eudialyte, and many of the Ti (Titanium), Nb (Niobium), and Zr (Zirconium) rich minerals. After this came the 3rd stage, the pegmatites, rich in F (Fluorine), Cl (Chlorine), S (Sulfur) and CO2. Here hackmanite, albite, more aegirine, higher temperature rare-earth and Ti minerals crystallized out together with sodalite and albite in the non-pegmatitic rocks (nepheline syenites). The fourth period, and the most interesting is the hydrothermal stage which probably made St. Hilaire the great mineral locality it is today. At this stage a whole series of mineral associations were formed from elements released by the decomposition of earlier formed minerals together with the new minerals formed during this time. Albite and analcime replacement zones were formed. In the pegmatites, many rare-earth minerals formed along with the lithium micas and beryllium minerals (epididymite). Also formed were the zoéites (natrolite, thomsonite, analcime) and clay minerals. Also neptunite, more feldspars, micas, aegirine, catapleiite, pectolite and many other minerals crystallized during the hydrothermal stage."

References:
A Textbook of Mineralogy, Edward S. Dana, 1877
Minerals of the World, Dana, and Reifl
Simon and Schuster Guide to Rocks and Minerals
Geology and Mineralogy of Mount St. Hilaire, Quebec, Canada, copyright 1973 by Worcester, MA Mineral Club
FINDS BY OUR MEMBERS

by Dick Grier, Jr. 5/93

Dick Grier, Jr.: acquired an Oligocene Squatina occidentalis from the River Bend Fm., New Bern Quarry, NC in trade with George Ponger; also acquired an Oligocene Isurus praecursor. Purchased a Nannipus tooth and a Tapirus tooth from the Florida Pleistocene; acquired a 1-3/4 in. Prognathodon (mosasaurid) tooth from Greens Mill Run, NC in trade with Ron Ison; acquired an 11 in. Pliocene walrus tusk in trade with Chuck Ball; found a 2 in. dia. Leodia at Lee Creek, 4/3; found a 3 in. Carcharodon at Lee Creek, 4/3; found a 2 in. Isurus escheri at Lee Creek, 3/6; purchased a Protolamna sokolovi Cretaceous, Texas, 3/6; purchased a 2 in. Parotodus from Lee Creek 4/24; found a 1-3/4 in. Enchodus ferox in the Severn Fm., Bowie.

Bob Grier: found a perfect Carcharodon carcharias, 2 1/2 in., at Greens Mill Run, NC, 3/5; found a 2-9/16 in. Isurus hastalis at Lee Creek, 4/10; found a 4 in. porpoise axis vertebra and a Galeocero medall tooth at Lee Creek, 3/6; found a 1-3/4 in. Pristis lathami or Anoxypristis tooth in situ in the Nanjemoy Fm., Popes Creek, MD, 3/23.

Fred Plumb: found a 3 1/2 in. Carcharodon 3/6 and a 2 in. Carcharodon 4/10 at Lee Creek.

Jeff Tabor: found 2-4 in. Carcharodonts at Lee Creek, 3/6.

Eric Thompson: found a 7 in. sperm whale tooth and a 4 in. lower anterior Carcharodon at Lee Creek, 3/21; found a 2 1/2 in. Carcharodon at Lee Creek, 3/6; found 2-1/2 in. Carcharodon carcharias at GMR, 3/7; found a 2 1/2 and a 2 3/4 in. Carcharodon at Lee Creek, 4/10; found a 3 in. Isurus at Lee Creek, 3/27; found a Hexanchus, echinoids and skate dermal ossicles at Lee Creek, 3/6; found several associated bird bones at Lee Creek 3/20.

Melissa Manwaring: found 2 2 in. Parotodus benedeni and a 3 in. porpoise rostrum section with 2 complete teeth at Lee Creek, 3/6.

Becky Hyne:
George Powell: has found more Parotodus benedeni at his site bringing the total number of associated teeth to approximately 98; found a 3 in. Isurus at Lee Creek, 3/27; also found 2 Hexanchus 3/27.

Joe Bernstein: found a 2 in. Parotodus at Lee Creek, 3/6; found a 2 2/3, 3 1/2 in. Carcharodon at Lee Creek, 4/10; found 4 Phacops rana at Capon Bridge, WV, Devonian, 4/17.

Ron Harding: found a perfect 2 1/4 in. Parotodus at Lee Creek, 3/6; found 3-1 1/2 in. Carcharodon carcharias at GMR, 4/23; found a Leodia at Lee Creek, 4/24.

Chuck Ball: found an 11 in. Pliocene walrus tusk at GMR, 4/3; found 2 perfect Squalicorax at GMR, 4/3; found a 2-3/4 in Qotodus at Liverpool Pt. in March; acquired a 4 in. Carcharodon, a 2 in. Carcharodon auriculatus and a 2 1/2 in. Parotodus in trade with Dick Grier; purchased a 5 in. calcite crystal from Elmwood, TN 5/8; purchased approx. 15-2 in. Isurus, 3/13; found a 2-3/8 in. Carcharodon at Lee Creek, 4/3; found a 1 1/2 in. and a 1 in. C. carcharias at GMR on 3/12 & 4/9.

Debbie Burdette: found a seal incisor, a Squalodon incisor and a swordfish vertebra at Lee Creek, 3/21; found a 2 1/2 in. Carcharodon at Lee Creek, 4/10; found numerous C. carcharias and Pleistocene horse teeth in Florida.

Dave Siegert: found a 4 in. Carcharodon at Lee Creek, 3/20

Terry O'Neil: found a 5 in Carcharodon at Plum Point in March; found numerous 2-2 1/2 in. Carcharodons at Plum Point in March; acquired a mosasaur tooth from an undetermined locality.

Lance Trifillis: found 4-2 in. plus Isurus hastalis at Lee Creek, 4/10.

Jerry O'Neil: found a 3 in. Thunnus vertebra in zone 10, Plum Point in March; found 4 or 5 associated shark vertebrae in matrix in zone 10 at Plum Point in March; also found 2 whale caudal vertebrae with epiphyses intact at Plum Point.


Fred Parker
Kathy Parker: found a 1 in. and a 1/2 in. Mosasaurus tooth at Bowie, 5/9.

Bob Platt
Pam Platt: found a 2 1/2 in. Tursiops (Pleistocene) porpoise axis vertebra at Lee Creek, 4/10; found a possible partial plesiosaur (Cimoliasaurus) tooth at Bowie, 5/9.
Jan Bowers: found a 5/8 in. pyrite crystal in matrix and large phlogopite crystals in matrix in the Cockeysville Marble at the Texas Quarry, 3/27; found 6 Phacops rana at Capon Bridge, WV, 4/17 as well as a Micheloceras 5 in., a straight-shelled nautiloid.

Lloyd Gleason: found an aggregate of small, brown dravite crystals in the Cockeysville Marble at Texas Quarry, 3/27; purchased 2 tapir teeth (Pleistocene) from Florida.

Jim Earman: found a 6 in. Myliobatis dental pavement along the Calvert Cliffs in March; also found an Acanthocybium jaw segment with 11 teeth.

Gary Grimsley: found 3 Pristis rostral teeth in the Eocene of Virginia in March; found a Megachasma pelagios, an idiopathic Isurus and a clump of 12 associated Leodia at Lee Creek, 5/1.

George Fonger: purchased a Pleistocene alligator jaw with 4 teeth from Florida; found a Squatina occidentalis, an Isurus praecursor, and a Hemipristis wyatt-durhami in the River Bend Fm., New Bern Quarry, NC (Oligocene), 4/23.

Vicki Bushong: found a beautiful 1½ in. Carcharodon at Lee Creek, 4/3.

John Frazier: found a 2-3/4 in. C. carcharias at GMR, 4/23.

Tom Parks: found a 3 in. Carcharodon at Lee Creek, 4/3; found a Pogonias mouthplate at Lee Creek, 4/10.

Craig Buchler: 2-2½ in. Carcharodon, 2 large makos and a porpoise atlas vertebra at Lee Creek, 4/3; found a 4 in. Carcharodon at Lee Creek, 4/10.

Patty Lewis: found a 5 in. Carcharodon and a 2 in. Parotodus at Lee Creek, 4/10.

Jim Bourdon: found a 2 in. Parotodus at Lee Creek, 4/10.

Carol Moorefield: found 3 enrolled Phacops rana at Capon Bridge, WV, 4/17.

Ron Ison: found 33 C. carcharias, 4 mosasaur teeth up to 1-3/4 in., one with root and 4 squalicorax at GMR, 4/9; found a 3-3/4 in. and a 5 in. Carcharodon at Lee Creek, 4/10; found a 4 in. Carcharodon and a 1 in. canid or seal molar at Lee Creek, 4/24.

Jim Savia: found a 2 in. Otodus at Muddy Creek, VA in March.
Dick Grier, Sr.: found a Squalicorax falcatus at GMR 4/9; found a 1 in. enrolled perfect Phacops rana at Capon Bridge, WV, 4/17; found a lump of squalene or ambergris at Lee Creek, 5/1.

Dr. John Medici: found a 2 in. Pungo Carcharodon at Lee Creek, 4/10.

Dave Fordyce: found 3 Phacops rana trilobites on matrix at Capon Bridge, WV, 4/17.

Barbara Warnock: found a 2 in. enrolled trilobite at Capon Bridge, WV, 4/17.

Jim Champion: found 2-1½ in. enrolled trilobites at Capon Bridge, WV, 4/17.
TRIP SCHEDULE:

JUNE FIELD TRIP

2ND ANNUAL PICNIC & SWAP/SELL, Matoaka Cottages, St. Leonard, Calvert Co., MD; Saturday, June 5, 1993; 9:30am until dusk; Admission: $3 per adult, $1 per child under 12; Low tide: 11:13am; Bring waders; Choptank Fm., Middle Miocene; swaps, sales, auctions, raffles, games; Bring picnic lunch.

*A second call-in for the picnic has been scheduled for Tuesday, June 1, after 6pm to Bob Grier. This is being done so that we can have a better estimate of the number of people that will be attending and what provisions to bring. If you signed up at the last meeting, or if you called-in on May 25, do not call-in on June 1.

MECKLEY QUARRY, Mandata, Northumberland Co., PA; Saturday, June 26, 1993; Silurian Tonoloway Limestone; Minerals: celestine, calcite, strontianite; rock and safety equipment necessary; you must sign a release; Meet at the Welcome Center (not Park & Rides) on I83N approx. 2-3 mi. north of MD-PA State Line at 9:30am; there is also a Devonian marine fossil site nearby; Call-in to Bob Grier after 6pm on Tuesday, June 16.

JULY FIELD TRIPS

BIG BROOK/HOP BROOK, Monmouth Co., NJ; Saturday, July 10, 1993; Late Cretaceous Navesink & Wecoma Fms.; shark teeth, mosasaur teeth etc.; May carpool; Bring waders, screens, long-handled shovels; Meet at Maryland House on I95N at 7:00am; Call-in to Bob Grier after 6pm on Tuesday, June 29.

LIVERPOOL POINT, Charles Co., MD; Sunday, July 18, 1993; Late Paleocene Aquia Fm.; Meet at shopping center at jct. of MD Rts. 201 & 6 at 9:00am; Low tide: 12:28pm; Bring waders; Call-in to Bob Grier after 6pm on Tuesday, July 6.

MEDFORD QUARRY, Westminster, Carroll Co., MD; TBA one Saturday in July (Page Herbert will notify me); Wakefield Marble, Early Paleozoic; numerous, large calcite xls.; Meet at Cranberry Mall on MD Rt. 140 in Westminster at appt. time; Bring rock & safety equipment; Call-in to Bob Grier after 6pm on Tuesday, June 29. If you call in, Bob will call to inform you of the time and date after it is confirmed.

AUGUST FIELD TRIPS

PLUM POINT, Calvert Co., MD; Saturday, August 14, 1993; Calvert Fm., Middle Miocene; Low tide: 8:10am; Bring waders; Meet at Roy Rogers at jct. of MD Rts. 4 & 402 (Dares Beach Road) at 7:00am; Call-in to Bob Grier after 6pm on Tuesday, August 3.
FRUITVILLE PIKE, Limonite Pseudomorph Locality, Lancaster Co., PA; Saturday, August 28, 1993; Bring bucket or tote bag, no tools needed; Meet at 8:00am at Welcome Center on I83N, 2-3 mi. north of MD-PA State Line; Call-in to Bob Grier after 6pm on Tuesday, August 17.

BEN MURPHY MICA MINE, Scaggsville, Howard Co., MD; TBA one Saturday in August; Pegmatite dike, minerals include beryl, apatite, muscovite, albite, autunite, spessartine, etc.; Rock and safety equipment necessary. Call-in to Bob Grier after 6pm on Tuesday, July 26. If you call in, Bob will notify you of the date, time and meeting place as it is confirmed.
MARYLAND GEOLOGICAL SOCIETY

PRESENTS ITS

2nd ANNUAL PICNIC•SWAP•SALE

SATURDAY, JUNE 5, 1993

9:30 AM UNTIL DUSK

LOW TIDE: 11:13 AM

THE LODGE IS ACCESSIBLE IN CASE OF INCLEMENT WEATHER.

BRING THE FAMILY; BRING A LUNCH.

PICNIC TABLES AND GRILLS AVAILABLE.

COST: $3/ADULT $1/CHILD UNDER 12

CALL IN ON TUESDAY, MAY 25, 1993 TO BOB GRIER AFTER 6:00 PM.

COLLECT FOSSILS IN THE MIDDLE MIocene AGE CHOPTANK FORMATION.

GENERAL AUCTION

SWAPS SALES
2ND ANNUAL MGS PICNIC & SWAP/SELL

by Dick Grier, Sr. 5/10

The 2nd Annual MGS Picnic & Swap/Sell is being held at Matoaka Cottages from 9:30 am until dusk on Saturday, June 5, 1993. Admission has been reduced to $3.00 per adult member and $1.00 for children under 12 years of age.

The Picnic will include a general auction, a silent auction, swapping, general sales, raffles and games for the kids. Last year there were enough tables and chairs to accomodate 40 people, but we ask you to take the precaution of bringing folding chairs and tables if you have swap or sale items to be set up.

We are asking for donations of material from the club members for the general auction, silent auction or raffles to help raise funds. Keeping our Treasury afloat require a constant vigil.

We are also asking that each member help defray the expense of the lodge rental by paying the admission, even if they do not park on Matoaka property. Larry and Connie Smith are still charging $5 per adult and $3 per child, but the MGS will pay $2 on each admission to help make our picnic more affordable.

Last year, both of our picnics were highly successful. We hope that you and your family will attend this year.

MAP FOR MATOAKA COTTAGES
The Maryland Geological Society is a society comprised of both amateur and professional mineral and fossil collectors, it is the intent of the MGS to emphasize the collecting, identification, study and display aspects of the geological sciences. The society is a non-profit organization.

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"Knowledge is our destiny ..."

Jacob Bronowski