President’s Message

On Wednesday, July 10, 1996, I attended a ceremony at the Smithsonian Institution’s National Museum of Natural History. The event was held to honor MGS member, George W. Powell, as he donated his collection of associated Parotodus benedini teeth. While George was in the spotlight, our club and all the clubs to which he belongs could share his pride. The contributions of amateurs to the profession of paleontology could find no better representative that day. George, the club is very proud of you and is honored to have you as a member.

On a lesser note, I enjoyed a fascinating vacation to the Black Hills and Badlands of South Dakota this past June. Aside from stunning scenery, the geology and paleontology are overwhelming. The focus of the trip was, however, to stay in a hotel allegedly (according to the television show, Unsolved Mysteries) haunted by Seth Bullock, the first sheriff of Deadwood, South Dakota and builder of the hotel. We were not visited by any ghosts.

I hope you are all well and your spirits are high.

MGS meetings are held bimonthly, beginning in January of each year. Meeting dates are TBA in The Rostrum. Meetings begin at 12:00 pm on the date specified (unless stated otherwise) at the Bowie Community Center, Rt. 450 & Stony Brook Drive, Bowie Maryland.

MEETING: The next MGS meeting will be held on Sunday, September 22 beginning at 11:00am at the Bowie Community Center.

PROGRAM: Presentation by Chuck Ball on the interview with Dr. Hubble of Florida about his private collection (see video presentation by Chuck).

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 the Editor.
LIST OF WINNERS - MGS OFFICERS FOR 1996

President: Eric Beach (202) 387-1710
Vice President: Dick Grier, Jr. (410) 285-5554
Secretary: Barbara Ermler (540) 253-5556
Treasurer: Russell Cox (410) 668-3383
Editor: D. Joos de ter Beest (703) 455-3185
Assist. Editor: Dick Grier, Jr. (410) 285-5554
Assist. Editor: Mike Folmer (410) 962-0313
Contr. Editor: Ron Ison (703) 491-4241
Membership Chairman: Dick Grier, Sr. (410) 285-5554
Program Chairman: Glenn Zamenski (410) 282-7519
Publicity Chairman: Dick Grier, Jr. (410) 285-5554
Liaison Officer: Cal Pierson (410) 472-9406
Ways & Means Chairman: Dick Grier, Sr. (410) 285-5554
Field Trip Chairman: OPEN Help !!!
Board of Directors: Gary White (410) 551-7826
                Debbie Burdette (301) 725-4278
                George Powell (703) 893-7856
                Chuck Ball (410) 987-1492
                Cal Pierson (410) 472-9406

MEETING DATES & THEMES FOR 1996

* SEPTEMBER 22  FLUORESCENT MINERALS - AMMONITOTES
* NOVEMBER 17  ARSENATES & VANADATES - BIRD BONES

* Confirmed dates. All meetings begin promptly at 12:00 pm unless stated otherwise. The doors open at 11:00am.
MINUTES OF THE MAY MEETING

The regular bimonthly meeting of the MGS was held on May 05, 1996 at the Bowie Community Center in Bowie, Maryland. The meeting was called to order at 12:15pm with 36 members in attendance. The minutes of the March meeting were read and approved.

Treasurer Russell Cox was absent but sent his report. As of April 30, 1996, the club had a checking balance of $1,076.12 and a savings balance of $3,994.23 for a total balance of $5,070.35. A check dated the same day was written for $300.00 to cover printing of the roster and their mailing cost.

Membership chairman Dick Grier, Sr. reported, as of May 5, a total of 150 adult and 50 junior members, including three new members since March 23, and six honorary members.

We were reminded of the annual MGS picnic at Matoaka on June 8, 1996. Entrance is $5 for adults and $1 for juniors, but the club pays $2 for each adult and $1 for each junior. Soft drinks, chili, hot dogs and rolls and a salad are provided by the club, and other things may be brought. A regular auction will be held. Members are invited to submit items, and submission forms were made available, along with complete instructions. The club receives 10% of all money taken in. This is an all day affair; low-tide will be in mid-afternoon.

Eric Beach reminded us to check THE ROSTRUM for field trips and announced that Dick Grier, Jr. will be resigning as field trip chairman at the end of the month.

The meeting was adjourned at 12:20pm and Bob Farrar gave a slide show presentation on his mineral trip to Chile.
MINUTES OF THE JULY MEETING

The regular bimonthly meeting of the MGS was held on July 21, 1996 at the Bowie Community Center in Bowie, Maryland. The meeting was called to order at 12:15pm with 31 adults and 5 junior members in attendance. The minutes of the May meeting were read and approved.

We have a checking balance of $1,355.33 and a savings balance of $4,191.27 for a total balance of $5,546.60. We have 161 adult members, including 11 new or newly renewed, 52 junior members and 6 honorary members. Two more new memberships were taken at the meeting and new member Ed introduced himself.

Our THE ROSTRUM Editor, Dominique M. Joos de ter Beerst made several remarks. He is grateful for all the articles being sent in, but asked that they be typed and limited to 1-2 pages. They will be printed “as is” if well designed. They may be faxed or mailed and should be received no later than two weeks prior to the mailing date of THE ROSTRUM. Finally, Dominique hopes, eventually, to increase the number of issues per year from four to six.

President Eric Beach reminded us that the editorship of THE ROSTRUM is the most time-consuming responsibility in the club. More interaction is needed from club members; articles should be submitted as outlined by Dominique, and complaints should be brought up in open meeting or directly to Dominique. Advertisements are welcome: cost for a one-year run is $5.00 for up to a half page and $10.00 for a full page. Dealers at any club meetings or other club functions are expected to donate 10% of all profits to the club.

Steve Cunningham reminded us that news of members’ fossil finds should be sent to him. Many members enjoy reading this section of THE ROSTRUM.

No program was presented at this meeting. Barbara Ermler, Secretary
THANK YOUS !!!

***** The Editor would like to thank his wife Gabrielle in giving him the support needed to tackle the challenge of creating the MGS Newsletter on a quarterly basis. (Spouses are not thanked enough for all the support they give...)

***** The Editor would like to thank several co-workers, Ms. Karen Harrington, VP (my boss), Ms. Denise Elliott, Marketing, Ms. Michelle Wright, Assistant Editor and Nick Wakeman, Editor for helping me out with articles and guidance in WordPerfect Graphics. Also Mr. David Swit, Chairman and Publisher for his encouragements.

***** The Editor would like to thank his daughter, Chantal, for her artistic help in retouching the lithograph of the double headed shark in this newsletter. Job well done. Your talent is real. Chantal had all my attention when she did the work.

***** The Editor would like to thank George W. Powell, Jr. for allowing the reprint in this Newsletter of his AFF article: “AURORA FOSSIL FESTIVAL”

***** The Editor would like to thank his AFF colleague, John Carson, allowing MGS the opportunity to publish the Assistant Director’s speech at the Smithsonian Institution.

***** Donations at the June 8 MGS Picnic (auctions and door prices):

Ron Bennett
Jay Vonderhey
Sal D’Ambra
Jerry & Patti O’Neil
Les Heinzl
Jeff Tabor

Minerals/fossils
Minerals
Minerals
Fossils
Fossils
Fossils
<table>
<thead>
<tr>
<th>ERA</th>
<th>PERIOD</th>
<th>EPOCH</th>
<th>MILLION YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Quaternary</td>
<td>Holocene (Recent)</td>
<td>Present - 0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pleistocene (Ice Age)</td>
<td>0.1 - 1.8</td>
</tr>
<tr>
<td>N</td>
<td>Tertiary</td>
<td>Miocene</td>
<td>1.8 - 5</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>Oligocene</td>
<td>5 - 22.5</td>
</tr>
<tr>
<td>O</td>
<td></td>
<td>Eocene</td>
<td>22.5 - 38</td>
</tr>
<tr>
<td>O</td>
<td></td>
<td>Paleocene</td>
<td>38 - 54</td>
</tr>
<tr>
<td>O</td>
<td></td>
<td></td>
<td>54 - 65</td>
</tr>
<tr>
<td>C</td>
<td>Cretaceous</td>
<td></td>
<td>65 - 141</td>
</tr>
<tr>
<td>P</td>
<td>Jurassic</td>
<td></td>
<td>141 - 195</td>
</tr>
<tr>
<td>T</td>
<td>Triassic</td>
<td></td>
<td>195 - 230</td>
</tr>
<tr>
<td>P</td>
<td>Permian</td>
<td></td>
<td>230 - 280</td>
</tr>
<tr>
<td>L</td>
<td>Pennsylvanian</td>
<td></td>
<td>280 - 310</td>
</tr>
<tr>
<td>E</td>
<td>Mississippian</td>
<td></td>
<td>310 - 345</td>
</tr>
<tr>
<td>O</td>
<td>Devonian</td>
<td></td>
<td>345 - 395</td>
</tr>
<tr>
<td>Z</td>
<td>Silurian</td>
<td></td>
<td>395 - 435</td>
</tr>
<tr>
<td>O</td>
<td>Ordovician</td>
<td></td>
<td>435 - 500</td>
</tr>
<tr>
<td>I</td>
<td>Cambrian</td>
<td></td>
<td>500 - 700</td>
</tr>
<tr>
<td>C</td>
<td>Precambrian</td>
<td></td>
<td>700 - 4600</td>
</tr>
</tbody>
</table>
Crossing the line

By

DONALD DICKSON II

The following article is my personal opinion of a practice, not a condemnation of
a person, or persons. This opinion is based on a practice I feel is very wrong. Before I
get into that, I would like to begin by saying that amateur fossil collecting is a

HOBBY

As with most hobbies there are responsibilities that those who participate should to
follow. Some of these are:

a) Obtaining permission to collect from private land owners

b) Taking out what trash you bring in

c) Refraining from over collecting or picking up everything in sight

d) No illegal digging, etc.

The MOST important responsibility is: SITE CONSERVATION.

Site conservation basically means keeping in mind the ability of the site to handle
collecting. Some sites can handle more than others. For instance, the beaches of
Calvert Cliffs can and have handled large amounts of collectors with shovels and/or
screens. Unfortunately, the Bowie Cretaceous site is an example of how ignorance and
greed overtook the importance of site conservation. It is sad to see a productive site
destroyed. Site conservation can be achieved only by the methods of a responsible fossil
collector.
There are a number of methods used by amateur fossil collectors. Many of them use shovels and screens but do not over collect, dig illegally (when no one is looking) or over visit sites. Sadly there are some collectors who take an approach that is shameful -- GREED. These selfish collectors ignore their responsibilities have to have the most specimens or the best quality ones for their collection. Greed has overshadowed the responsibilities of these collectors. This greed has recently surfaced in the form of a dredge.

There has been a request recently by a fellow collector to the Army Corps of Engineers for a permit to use a dredge in the Chesapeake Bay to collect fossils. In that person's defense, the dredge is small -- consisting of a 3-5 HP engine and a 4 inch intake. However, even if the dredge was bigger, even industrial sized, the argument against its use would be the same. I feel the use of the dredge is very wrong. The purpose of using it is to collect fossils for that person's own use. This says to me that, "Well if I dig in the Bay where no one else has, I bet I can find great stuff that no one else could match". In other words, GREED. Greed has many effects that collectors may not be aware of or choose to ignore.

What effect does the dredge have on the ecology of the site? What about the effect on the ecology of the entire Bay? The possible effects on the Bay's natural ability to regulate itself and recover from manmade damages is a question that has not been addressed because such an undertaking has never been done before. Fossil collectors are one more part of the human race that could have a hand in the Bay's complete downfall because of greed. In the six years I have been actively collecting, I have witnessed more and more people turn this hobby into a competitive sport. It is ideas like the use of the dredge that could give professional scientists a good reason to pass a law banning amateurs from various sites.

In closing, I would like to remind my fellow fossil collectors that each and every one of us have a responsibility to fossil sites, the Chesapeake Bay and each other. It is a sad thing to see greed overshadow the importance of this being a hobby (with responsibilities) and not a competitive sport. But most of all, it would be sad to have the request for the use of dredge granted for all of these reasons. If you really care about this hobby and its future, use your voice in your clubs and local governments to shoot down the request.

There is a fine line between friendly competition and downright greed.

Let us draw that line HERE and NOW.
On a cloudless day with a delightful breeze of 10-12 knots and the temperature in the middle 80's on Saturday, June 8, 1996, the Maryland Geological Society held its Fifth Annual Picnic. The setting was at Matoaka Cottages overlooking the beautiful Chesapeake Bay at St. Leonard, Maryland. The tide was nearly low at early day. Many adult and junior members spent a lot of time on the beach swimming and fossil hunting.

The pavilion, which we rented as usual, was orderly and had more seating than in the past. A general auction and a silent auction were set up indoors and held about 4:00 p.m., as was our 8-Ounce Tooth Jar Raffle. Although our attendance was a little down from last year, the bidding was at times fast and furious. Bob Farrar was operating at his usual dealer stand.

Between trips to the beach, our picnic grills and tables were visited often for the great variety of soft drinks, ice tea, salads, chili by Bob Grier, all kinds of snack crackers and chips, pickles, olives and cakes. There were also hot dogs and hamburgers. In the pavilion, we had the usual coffee and donuts. Much of the food and beverages were provided by the club, but most members brought picnic lunches which were shared by all.

If you were not there you missed a nice, sociable time at a leisurely pace.

We thank all those who attended and those who donated food and items for the auctions. We hope to see all who came and all who missed this year at next year's picnic.

It was a grand and glorious day !!!

Dick Grier, Sr.

Editor's note: A special thank you note to Barbara Ermler for typing the article at my special request, so I could create and achieve better results...without mistakes. Your support is appreciated. Un grand merci a vous. (It is a pleasure speaking French to Barbara, her French is very good.)
BOOKS

HANDBOOK OF PALEO PREPARATION TECHNIQUES - Florida Paleontological Society, Howard H. Converse Jr $12.95

COLORADO’S DINOSAURS, Jenkins & Jenkins $15

THE PRACTICAL PALEONTOLOGIST, Parker & Bernor Editors $14.95

FOSSIL SHARKS OF THE CHEASAPEAKE BAY REGION, Kent $12.95

EYEWITNESS HANDBOOKS-FOSSILS, Walker & Ward $17.95

TOOLS AND OTHER GREAT STUFF

ORANGE HARD HATS $9.95
ROCK HAMMERS $10
DENTAL TOOLS
  3 PICK SET $6.75
  1 PICK $3.50
ESTWING CHISELS $13.5 - $17
RUB-R-MOLD Liquid latex flexible mold compound $19.30

ZIP LOCK BAGS

<table>
<thead>
<tr>
<th>Size</th>
<th>Thousand</th>
<th>Hundred</th>
</tr>
</thead>
<tbody>
<tr>
<td>1X1</td>
<td>$8</td>
<td>$2</td>
</tr>
<tr>
<td>1.5X2</td>
<td>$8</td>
<td>$2</td>
</tr>
<tr>
<td>2X2</td>
<td>$8</td>
<td>$2</td>
</tr>
<tr>
<td>2X3</td>
<td>$10</td>
<td>$2.50</td>
</tr>
<tr>
<td>3X4</td>
<td>$14</td>
<td>$3</td>
</tr>
<tr>
<td>4X6</td>
<td>$24</td>
<td>$4</td>
</tr>
<tr>
<td>5X8</td>
<td>$34</td>
<td>$4.75</td>
</tr>
<tr>
<td>6X9</td>
<td>$42</td>
<td>$5.50</td>
</tr>
<tr>
<td>6X6</td>
<td>$24</td>
<td>$4</td>
</tr>
</tbody>
</table>
As you have probably already heard, the future is on the “Internet Super Highway”. I know it’s a trite expression but there are a great many fossil and mineral related sites on the World Wide Web. I like to say “The past can be found on the “Internet Super Highway””. If the veteran “Web-Surfers” will allow, I’ll start with the basics so everyone can catch up. They can skip to the end and check out some recommended Web sites.

**History:** In the beginning, the U. S. military placed large computer information servers around the country and around the world to store defense data. The plan was to have redundancy in case of world war. These data servers could only be accessed by military computer operators who used cryptic codes and systems to find information. Most of these computers did and still use a UNIX operating system that make DOS seem simple. In the United States, the large state universities, often with funding from the government, built a “network” of similar data repositories for their own data. These servers when linked together became the framework of the Internet. As the Internet grew with the addition of corporate and government computers it became necessary to find a standard way to store and display information that everyone could share.

This important task was given to the University of Illinois under a military grant. Using a standard system, the Hypertext Markup Language (HTML) for coding and storing documents, a team of professors and computer professionals developed the first “browser” which they named Mosaic. A browser is a user friendly, window type computer program that runs on a common home/office PC that can display documents saved in the HTML format. A browser is intuitive and therefore very easy to use. With just a click of the mouse, on a word or picture, takes you to a new screen of information anywhere in the world.

This new standard system on the Internet became the World Wide Web (WWW). The WWW grew so fast that statistics could not be published in time to be any better than a best guess. It is still growing at a tremendous rate as government, schools, companies, non-profit groups, clubs, and even individuals set up Web servers to display their
information to the world.

The “Web”: You’ve read this far so you’re probably saying to your self “What does this have to do with fossils and minerals?” Well the Web got so big and diversified that special sites were set up to act as indexes so you can find information by subject. (Try Yahoo, http://www.yahoo.com/) You just type in a word or group of words that narrow the search and click “find”. The results come back to the screen as a clickable list. The word “mineral” produced 142 choices for me to go to. Not all of these were useful sites since mining companies, and any listing with the word “mineral” came up, but many were great. Words like “fossil”, “dinosaur” and “shark”, also produce so many interesting sites that I don’t have time to look at all the pictures, read about all the events and trips, and learn about the new finds.

Now you need to know how to get to all this information yourself. It’s really pretty easy. You will need a home computer, a modem, the browser software and an Internet provider. I’ll take these one at a time.

Hardware: If you don’t already have a Macintosh or an IBM compatible running Windows, you’ll need to do some serious shopping with a knowledgeable friend. The main thing is to buy the most RAM memory you can afford (at least 8 MB better 16MB) and the fastest modem (currently 28.8 baud rate).

Software: You can buy the latest commercial browser software such as Mosaic or Netscape at a store or get it and other useful Internet tools from your Internet provider. Some Providers give you their own custom version, like “America on Line”. (See Next)

Internet Provider (IP): The Internet Provider’s function is to give you access to the Internet by allowing you to dial in to him. The IP controls a piece of the Internet, which lets you in to the Internet through him. Your modem connects you to him and he passes your signal through to the Internet. The IP will give you the modem settings and any special instructions you need to connect to him. Once connected you run your browser and off you go.

All IP’s charge a fee. The fee depends on the “extra” features offered at the IP site. There are no frills IP’s like “Erols Video” or elaborate IP’s like “Compuserve” who offers games, sports, news, and lots of other information services. After you are comfortable
with all this you will probably use a basic IP service that charges a flat rate instead or an hourly fee. Always ask the IP about email services they provide when you are shopping around. You’ll need it to join the “Chat Groups” on the ‘Net where you can talk to people around the world concerning a topic in which you are interested. Netscape has a very nice email program built into it’s browser.

Sites: Time to get to the good stuff. Below are some of the best Web sites I’ve found. These will lead you to other sites with related information.

Be sure to check out the museums like the Smithsonian. One last tip. Many of the best sites are loaded with graphics which cause pages to load slowly. You can speed this up by turning off the “autoload graphics” feature in your browser. When you get to the site you want, select “expand graphics”.

Hot Mineral & Fossil Web Sites

The Amethyst Gallery
Highlights: Beautiful pictures and descriptions of every mineral you can name. Listed alphabetically.
http://mineral.galleries.com/amethyst.htm

Two Guys Fossils
Highlights: Extremely high quality fossils for sale. Examples include: a complete duckbill dinosaur jaw, dinosaur teeth, rare fossil fish. Good pictures.
http://www.twoguysfossils.com/

Bob’s Rock Shop
Highlights: The best mineral site for collectors. Information and connections to other sites.
http://www.rtd.com/~bkeller-rockshop/rockshop.html

Geoclassics
Highlights: Fossil crabs, common fossils at low prices. minerals listed. No pictures
http://www.geoclassics.com/

Stones & Bones
Highlights: Asst. minerals and fossils - Beautiful Shark teeth from Africa.
http://www.stonesbones.com/

Eduardo Jawerbaum
Highlights: Eduardo’s personal collection of asst. worldwide minerals and fossils.

Jay’s Mineral Cabinette
Highlights: Jay Vonderhey’s personal collection of minerals. Many great samples from Medford Quarry and other East Coast sites.
http://www.scranton.com/~matrix/
FOR YOUR INFORMATION CORNER

WE NEED LECTURERS
AT OUR CLUB
MEETINGS

ATTENTION:  Parents and Teachers

If you want free minerals, fossils, sea shells or river shells for a school...
please contact Bernard or Florence Strean at 301-899-7598.
You must come to our house. We will provide name and location.

MORE TO ANNOUNCE ON OUR MEMBERS:

Dear Club Members:

Our mutual friends have moved and I wish to pass on this information to you:
Their new address is as follows:

Mr. & Mrs. Frank and Becky HYNE
2942 Ruth Drive
Greenville, North Carolina 27858

CENTENNIAL MINERAL SYMPOSIUM

Bringing amateur and professional mineralogists together...

Location: Penn State University
State College, Pa.
When: September 27-28-29, 1996
Speech given at the NMNH in honor of George Powell, Jr.'s Donation

Good afternoon, and welcome to the National Museum of Natural History. Our director, Bob Fri, wanted me to express his regrets over his absence from this gathering - at present he is on a collecting trip. His fieldwork can be arduous, time-consuming, but sometimes rewarding. In other words, Mr. Fri is fundraising in the wilds of California.

We are here today to acknowledge the wonderful gift of Mr. George Powell of Falls Church, Virginia. Mr. Powell is donating to the National Museum of Natural History a splendid assemblage of shark teeth, collected at the Lee Creek Mine in Aurora, North Carolina, the mine operated by the Phosphate Corporation of Saskatchewan.

Amateur collectors have formed a long and distinguished line of benefactors of science. The first dinosaurs were discovered in England by William Buckland, a clergyman, and Gideon Mantell, a physician. The beautiful and the rare specimens that have been donated by amateur collectors have helped to form the nucleus of the great collections that surround us in this museum. Our collections are available for study by future generations - a specimen donated to us today may stimulate a great scientific breakthrough - tomorrow, or 200 years from now.

When I was a college student in New Zealand, my major professor gave me a book, the sixth edition of Lyell's Elements Of Geology, published in the 1860's, and a piece of rock containing fossil worm tubes. This tattered and well-used book, and the worm tubes, had been given to my major professor in 1935 by Frank Hutchinson, a renowned amateur fossil collector. Hutchinson's important collections of fossils grace the holdings of the four major museums in New Zealand. Just a few years ago I was amazed to learn that Hutchinson's lifelong home was directly across the street from the house that I had lived in as a child. Early this year, when back in New Zealand, I trespassed on his property and wandered around in his garden, regretting that I knew so little about the life of this man who, as a dedicated amateur, had done so much for natural science in New Zealand.

Amateur collectors play an increasingly important role in science, most especially in these days of decreasing support of great museums. We who live in museums are greatly appreciative of the work of these talented collectors, and of the admirable activities of fossil clubs: several clubs in the national capitol area are represented here this afternoon. I don't know how these clubs operate, but I would urge them to consider collecting not only fossils, but also information about the lives of their members, thus forming archives that document the collecting in torrential rain, the accidental discovery of that special fossil in the rock that was just tripped over - such human experiences can enliven and enrich the often all-too-clinical documentation of collections.

Cooperation and collaboration between private and corporate property owners and collectors is absolutely vital to the advancement of natural science, by bringing to light specimens of great scientific value, such as we see before us today. Indeed, we are all winners in this situation. Mr. Powell is presenting us with the fossil shark equivalent of the Mona Lisa - something unique and beautiful, that will always be available for study. We in this museum, and the great constituency that we represent, are very grateful indeed to you, Mr. Powell.

Thank you very much.

David L. Pawson
Assistant Director, National Museum of Natural History
July 10, 1996
When Books Fall Short
(Playing chess with ancient sharks)
By Steve Cunningham

I don't know why, but a couple of years ago the urge to collect fossil shark teeth hit me like a ton of matrix. I went out on long, tiring excursions and brought back dozens of the shiny pearls-of-the-sand. Dozens grew to hundreds and hundreds grew to thousands. I was collecting teeth at a much faster rate than I could identify them and had many more than could be identified by using pictures in books. I even had known species that didn't look like their depicted counterparts. My feeling was that of a person who collects chess pieces without knowledge of the game.

The requirements are simple: tweezers, some large foam pads, a few display mounts and all of your best specimens. The foam pads should be large enough to hold lots of teeth, and stiff enough to be carried and stacked like trays which allows you to put them on a shelf somewhere when you're not in the mood. I use ten 15"x9"x1" soft foam-rubber pads. The teeth you use should be in good condition, as the worn and broken ones will only fool and frustrate you. Use these frags to test your knowledge as you progress. When you isolate a species, arrange the tooth groups in a display mount for future reference.

The rules of the game are a bit more complex but can be learned quickly. There are certain traits that are common in most shark teeth relative to their position. For instance, lower teeth tend to be narrower and often more sigmoidal in profile than their upper counterparts. Anterior teeth are sometimes narrower and more inflated while lateral teeth are blade-like and triangular. The cusps of most teeth appear to lean away from the center of the jaw thereby establishing left-right orientation. The outside (labial) surface is usually flat in contrast to the more inflated and diagnostic inner (lingual) surface. These and many more rules will guide your placement of teeth in like rows, and groups of rows into complete tooth sets. Of course, as with most rules, there are exceptions, like the dreaded backward tooth.

One of the most interesting teeth in the mouth of many species of sharks is the last upper anterior away from the center of the jaw. This is the backward tooth (Fig. 2, third from left). Before you discover its true position, it will drive you crazy. No matter where you place it in your tooth row, rules are broken. Put it with the teeth that lean away from the center and the root is backward (this happens in both upper and lower jaws). Orient the root with all of the other roots and the cusp is backward. In fact, the only way this tooth fits most of the rules is by turning it wrong side out. This can't be right. The reason this tooth is so weird is the tip of the cusp actually bends toward the center of the jaw, unlike any other tooth position. I have found this particular tooth in sand, mako, and goblin sharks and I'm sure...
it will show up in others. When you get to know this backward tooth, you will always know its position as the last upper anterior before the intermediates or laterals, no matter the number of anterior teeth. In modern narrow-tooth makos it shows up as the second from the center.

The very books that fall short of identifying every shark tooth contain a wealth of clues to the rules of tooth position. Drawings are usually labeled as upper, lower, left, right, anterior, lateral, etc., and often depict subtle characteristics common to a species. Drawings of one or two teeth may be all you need to correctly deduce the placement of others. As you get better at working with tooth rows, you will understand why authors need only certain teeth in their drawings to help identify a whole mouthful of differently shaped teeth.

Cheating in the game of chess with ancient sharks is absolutely legal, and it takes the form of studying recent shark jaws. If you stare at the jaw of a Carcharias taurus (extant sand shark) for a while, or an Isurus oxyrinchus (similar in many respects including the backward tooth), you will be able to make sense of most of the teeth you have collected.

The game itself is played until you have successfully isolated and arranged all the good teeth you have collected for a certain species (which gives you the victory), or a specific population of teeth has baffled you into submission (victory going to the shark), like the Miocene Isurus hastalis or Galeocerdo sudanensis. As you play, the subtle characteristics which determine species will soon unfold. You may have a large row of similar teeth that exhibit the same form and shape, but the cusplets are consistently different on several. These should be placed in a new row. When you start noticing the same differences on other forms of teeth, and organize them likewise, you are hot on the trail of a separate species.

Variation within a species is one of the shark’s best strategies for frustrating your efforts. Even after you have isolated a species and deduced the mouth position of every single tooth with reasonable certainty, you will notice a great deal of cusp variation. Cusps tend to vary more than roots. For any given tooth position you will have teeth that are a bit narrower, or less striated, or a subtly different shape than others. Identifying shark teeth by means of the cusp will have you moving small teeth endlessly from one species to another. Put your trust in the root.

When the roots are in good condition, they exhibit remarkable consistency, regardless of tooth size. They hold most of the clues to species and position. In figure 2, the angle between the root lobes increases as the teeth get further from the center of the jaw. Root characteristics offer the quickest and most consistent way to determine position, especially for anterior teeth. Hemipristis serra lower anterior teeth would never have been confused with sand sharks were they identified by the root.

In the final analysis you will want to give your isolated species a name. Do not fall prey to the confusion of taxonomy. Genus assignments have been, and continue to be, volleyed about like beach balls. Use your most recent publications.

The use of tooth characteristics to identify species and dental formulae is certainly not new. It has been suggested for many years. However, the process of building artificial tooth sets seems to be overlooked by a great many who collect for a hobby. Perhaps the shark’s best strategies for making the amateur forfeit the game of chess with fossil teeth, are the vast number and variety of teeth to be found. But, thanks to bilateral symmetry, once you understand half of your collection, the other half will fall into place.
The Face of a 10,000-Year-Old Woman

One of the oldest and rarest human archeological finds in the North American continent was discussed in-depth on June 6, 1995 at Matrix: Midland Festival. A 10,000-year-old woman, of Asian descent that was discovered near Austin, Texas and is the subject and analyzed at Matrix. She may be the oldest female ever discovered to live in North America and her remains are currently in possession of Texas A&M University.

The skull has been replicated for future study in an extraordinary project supported and coordinated by Michigan-based Dow Corning Corporation. "Studying these remains will help us understand not only how the Americas were peopled, but how humans have colonized the planet," said Dr. Gentry Steele of the Department of Anthropology at Texas A&M University. Using silicone mold-making expertise, this is believed the first time a skull of this antiquity has been replicated.

Working with the University of Michigan, the project was taken a step further by using scientific evidence and techniques to create a sculpture of her face. The likeness of her face was unveiled for the first time at this program.

The program was held at the Midland Center for the Arts, 1801 West St. Andrews, Midland. The scientists and artist that worked on the project were present at the program.
This unusual rare document is a scientific paper written by M. A. De Quatrefages in 1888 (Paris, France) entitled: “Sciences Naturelles, la Monstruosité Double chez les Poissons” or “Natural Sciences, the Double Monstrosity among Fishes”. The paper (original) contains 2 lithographs which one is in color (about trout...).
AURORA FOSSIL FESTIVAL
MAY 24-26, 1996

George W. Powell, Jr.

It was a cold, rainy, all around awful Memorial day weekend in the Washington, DC area. But at the third annual Fossil Festival in Aurora, NC, the weather was great! At times, though, it looked like it was going to pour down - but the rain stayed at bay.

The festival kicked off on Friday night, the 24th, at the Aurora High School gym. Following speeches by the Mayor, Grace Bonner; Beaufort County Commissioner, Frank Bonner, W.T. “Bill” Cooper, general manager of PCS Phosphate (Lee Creek Mine). I gave a speech declaring the festival open; I was given the honor of being named “Fossil Master” (Grand Marshall) of the festival.

Soon it was back to the school to unload. After the parade, the displays were open for all to enjoy.

PCS had a 50’ x 50’ tent with about 400 fossils and over 100 photos showing the different operations of the plant. They also had bus tours of the mine. There was a car show, hot-air balloon rides, stage shows, and Saturday night there was a street dance. On Saturday and Sunday, there were craft displays, sky divers, kids rides and games, PCS bus tours again, and all kinds of food.

There were lectures given at the fossil museum. On Saturday, Richard Chandler of the NC Fossil Club; Dr. Bretton Kent of the University of Maryland; myself; and Dave Bohaska of the Smithsonian Institution. On Sunday Brett, Dave and I spoke again.

The fossil displays were put together by the Aurora Fossil Club, the American Fossil Federation, Maryland Geological Society, NC Fossil Club, the Smithsonian Institution, NC State Museum of Natural Sciences, East

George Powell (Fossil Master) smiles at the crowd during the parade

band, horses, floats, cars, and trucks were all ready to go. I got on the float that was loaded with boy scouts, and down the road we went for almost a mile. We all enjoyed the big crowd.

There was an abundance of fossils present.
Carolina University, NC State University, Duke University Marine Lab, Frank and Becky Hyne, and five or six fossil dealers. There was a lot for everyone to see (thousands of fossils), and things to do for all ages.

The Festival Committee estimated the crowd from Friday to Sunday evening, to be around 15,000. Next year I hope to see more fossil clubs at the festival. Remember, the more we share, the more we enjoy, and the more we learn.

The AFF Fossil Display was well received.

Thanks to all the A.F.F. members and friends that gave shark teeth for the Fossil Fact Finder Fun Foray Drawings for the kids, it was a good start for next year. Thanks to the members that loaned and displayed their fossils. But most of all, thanks to Gaye Williams and the 21 other members' hard work and effort that made the A.F.F. display again the best in town. I hope to see you all at the A.F.F. meeting at Pinmit Hills on July 14.

(Back row) Sandy Brenner, Fred Grady, Dave Bohaska, George Powell, Gary Grimsley, George Fonger, Bill Heim, Ron Harding

(Front Row) Nick Bohaska, Gaye Williams, Terry Cirrincione, Dominique M. Joos de ter Beerst

See you next festival!

George W. Powell, Jr.
THE GREAT RUSSIAN DINOSAURS ARE COMING!

The New Jersey State Museum is proud to announce that it will host the only East Coast engagement of the internationally-traveling paleontological exhibition, “The Great Russian Dinosaurs”. The exhibit will be on view September 21 through December 22, 1996 at the New Jersey State Museum, 205 West State Street, Trenton.

The exhibition, consisting of paleontological specimens gathered over the past century from sites across Russia and Mongolia, includes 24 full skeletons (some as large as 19 feet high), 50 skulls, dinosaur eggs, and dozens of other fossilized creatures. It has appeared outside Russia only in Japan, Australia, Arizona and Iowa. According to exhibition director Dr. Patricia Vickers-Rich, the exhibit is “an opportunity to see dinosaur specimens which have only recently been allowed out of Russia...the recent dramatic changes in the region have brought about the opportunity to bring, with love and care, some of Russia’s scientific treasures to the rest of the world.”

“The New Jersey State Museum is the perfect host for this exhibition,” said NJ Secretary of State Lonna R. Hooks. “The Museum has an outstanding reputation for its ongoing paleontology field work, and it’s already home to a cast of New Jersey’s own Hadrosaurus foulkii, the first nearly complete dinosaur skeleton found anywhere in the world in 1858. In hosting this exhibition, the Museum furthers the sister-city relationship between Moscow and Trenton and shares a part of Russian culture with our citizens.”

In addition to the paleontological specimens, “The Great Russian Dinosaurs” exhibition will feature computer-assisted education that gives visitors an opportunity to explore a variety of topics concerning dinosaurs, and the Working Scientist window where visitors can watch and ask questions of a paleontologist at work on fossil preparation.

over...
The New Jersey State Museum is seeking corporate sponsorship for two more exhibition features: *Design a Dinosaur*, which provides youngsters with a chance to use their imaginations to build a life-size dinosaur using felt parts secured by velcro; and, *Animated Dinosaurs*, in which the high technology of computers, pneumatic systems and special visual effects allow robotic dinosaurs to realistically and accurately replicate prehistoric animals.

Delivery of "The Great Russian Dinosaurs" to the New Jersey State Museum is expected to occur in early September. Transportation for the show has been provided by Qantas Airlines. An international team of Russian and Australian scientists and technicians will be flown to Trenton, NJ in September to assemble and install this exhibit, with two members of the Russian contingent remaining until the show's end in December.

Family and individual admission to this exclusive East Coast engagement of "The Great Russian Dinosaurs" at the NJ State Museum will be $5/person for adults; $4/person for NJ State Museum Friends; $3/person for children 12 and under; $3/person for senior citizens (65 and over). Group rates will be $2.50 per person in groups of ten or more.

Visiting school groups may wish to register for Supersaurus Day ($4/person), a three-hour adventure which includes exhibition admission, a planetarium show (*Death of the Dinosaurs* for grades 7 to 12; or *The Case of the Disappearing Dinosaurs* for grades 2 to 6), and an auditorium program entitled *A World of Dinosaurs*. Advance reservations are required for school groups and can be made by calling (609) 292-6347.

The exhibition is organized by the Monash Science Centre, Melbourne; the Queen Victoria Museum, Launceston; and the Paleontological Institute, Moscow; with support from Qantas Airlines. Support for its New Jersey engagement has been provided by Bayway Refining Company, the Governor's Tennis Tournament, The Merck Company Foundation, the NJ Department of State, and Poppe Tyson Advertising and Public Relations, and an Anonymous Family contribution (as of 6/17/96).

The New Jersey State Museum is located at 205 West State Street in Trenton, NJ, just west of the State Capitol. The Museum, a division of the NJ Department of State, is open Tuesday through Saturday from 9 am to 4:45 pm and Sunday from noon to 5 pm.

For more information about "The Great Russian Dinosaurs", or for directions to the NJ State Museum, please call (609) 292-6464.
WILL YOUR SPECIMEN ACHIEVE ITS SCIENTIFIC POTENTIAL?

Are your fossils becoming curios, and will they eventually become somebody else's trash, or will they repose in a public museum where they can tell their stories? A fossil with a history has a story to tell. Its history tells where it came from, how old it is, and how and where it lived. When a fossil loses its history, it becomes mute, a name without a story, a curio. Each year many fossils become silent curios; lost are stories that can never be told again in exactly the same way. But, when they are donated to a public museum, their stories can be told many times.

Few Museum scientists would argue that every vertebrate fossil belongs in a research collection. Fossils may have multiple uses including personal pleasure, school teaching collections, and exhibition galleries. However, you have an important fossil vertebrate that has a story to tell, and scientists have asked you to donate it to a museum's collections, and you wonder "why do they need my specimen? Why don't they go and find another one like it?"

Fossils are, however, unique records of the history of life; each one provides information about the anatomy and variation within a species that no other specimen will provide. Each specimen furnishes bits and pieces of information about the whole animal and the history of its species. Only rarely do vertebrate paleontologists get to see a whole skeleton and to interpret the information it provides, information about the role of one specimen in the history of a species. It takes many specimens to flesh out the complete story. A specimen, therefore, does not have to represent a new animal in order to be important; it may represent a portion of the skeleton not previously known or a new variation in bone or tooth form for a common species. This new information may seem trivial, but it adds another facet to the complex history of a species. Over the years, as vertebrate paleontologists accumulate information from fossil bones, they begin to unfold the story of how a species of extinct animal varied individually, where they lived, and how they made their living.

When scientists publish this information, they make it available to everyone. Since the published specimens are cited by their catalogue numbers, other scientists can examine the same specimens and evaluate the roles these specimens played in interpreting the history of a species. A specimen is usually published more than once, and each time its story may be interpreted differently or new methods of examination may provide new information about the history of its species. Since the story of a specimen is never completely told in one or several scientific papers, it is important that specimens be preserved in the collection of a well established museum so that future paleontologists will be able to study them also.
Important fossils in personal collections, however, may become curios when they are traded or sold, because important information, locality and stratigraphy is often lost. When this happens to a fossil, it loses most of its importance to posterity. Other tragedies that befall private collections are fire, disposal by a disgruntled or uninformed spouse, theft, or disposal by the collector's heirs who are unaware of the scientific importance of the specimens. These tragedies occur frequently enough to private collections that scientific journals generally refuse to publish papers based on specimens not deposited in a museum. Many specimens published in the nineteenth century that remained in private collections are now lost, and many of the species they defined are no longer valid. For the scientific community, then, a public, non-profit, self-perpetuating museum is considered the safest depository for scientific specimens.

How will donating a specimen to a museum benefit you? Not very much materially, but you will receive a letter acknowledging your gift, a copy of which will be placed in the permanent accession file; your name will be acknowledged as the collector when the specimen is published. Your children, your grandchildren, your great grandchildren, etc., will be able to visit the museum to see the specimen you donated and the documentation pertaining to it. These benefits may not seem like much, but your specimen will be preserved in your name for generations to come, and it will be available to scientists from all over the world. You will have the satisfaction of contributing to the cumulative store of human knowledge and of accomplishing something that will outlive you as an individual. You will have made an important contribution to the study of fossil vertebrates, and the story of your specimen will live on.

Will your specimen achieve its scientific potential, or will it eventually become a curio or someone else's trash?

CASTS

Sometimes donors will request painted casts of the specimens they donated; although we would like to accommodate each of these requests, we can't always do so because of limited time, budget, and personnel. Our Preparation Laboratory has several years backlog of work for new exhibits and research; casts divert time from the preparation of specimens for these activities. Please help us by minimizing requests for casts of your specimens.

DIVISION OF VERTEBRATE PALEONTOLOGY,
NATIONAL MUSEUM OF NATURAL HISTORY
SMITHSONIAN INSTITUTION
A Federal Trust for the People of the United States
MRC-121, Washington, D. C. 20560
Finds by our members

Send a list of your favorite finds, dates and localities to:
Steve Cunningham. 4900 Walther Ave., Baltimore MD 21214

Don Miller

*Bone Valley, FL* 10/11/95 ➔ *Metaxytherium* (Dugong) right maxilla (w/teeth), scapula and zygomatic. 1¾” sawfish tooth, 1” Gavialsuchus tooth. *Leisey shell pit, FL* 10/12/95 ➔ *Hemiauchenia* (Llama) cervical vertebra, Equus upper molar, Odocoileus lumbar vertebra, fish (sp?) 2”x2” bladder bone, bird (probably *Teratornis*) tarsometatarsus. *Apollo Beach, FL* 10/13/95 ➔ Bird (sp?) humerus, Tortoise (sp?) leg spur. *Saverville, NJ* 04/27/96 ➔ Half-dollar size piece of *amber* and a gazillion small pieces, lignitized wood, numerous iron pyrite specimens.

Dick Grier, Sr.

*Capon Springs, W.Va.* 04/27/96 ➔ *Phacops rana* (trilobite) enrolled specimen in good condition 1¾” wide x 2¾” long (would be 4” long if stretched out), *Phacops rana* in good condition 1½” wide x 2¾” long (3” if stretched out).

Mel Hurd

*Liverpool Pt., MD* 07/07/96 ➔ *Otodus obliquus* tooth with a 2¾” slant height in good condition. 07/14/96 ➔ *Otodus obliquus* tooth with a 2¼” slant height in good condition.

Bob Farrar

*Pioneer Tunnel Coal Mine, Ashland, PA* 07/20/96 ➔ A large plate of *fossil fern leaves*.

Barbara Ermer

*Muddy Creek, VA* 07/15/96 ➔ ½” snake vertebra *Paleophys virginianus*. *Bowie, MD* 07/17/96 ➔ 1” croc tooth *Thoracosaurus* sp.

Steve Cunningham

*Liverpool Pt., MD* 06/30/96 ➔ Several *Striatolamia striata*, *Odontaspis winkleri*, Lamna lERICHEI, *Carcharids teritidens*, *Carcharids hopei*, Galeorhinus lefevrei, Palaeopygus rutoti. 1” *Otodus obliquus* in great condition, 2 *Squatina prima*, 3 Squalus spp. 07/28/96 ➔ *Paraorthacodus clarkii*, lower sympyseal (?) *Odontaspis winkleri* in excellent condition.

Amanda Cunningham

Liverpool Pt., MD 07/28/96 ➔ *Paraorthacodus clarkii*, ¾” lower sympyseal *Palaeopygus rutoti* in excellent condition with well defined wrinkles at base of crown, a beautiful ¾” *Palaeocarcharodon orientalis* with good root, excellent blade, crisp serrations and sharp point.
FIELD TRIP TO LEE CREEK MINE IS ANNOUNCED....as per our President:
The MGS has been allotted fifty (50) seats to the Lee Creek mine on
Saturday, November 2, 1996
The call-in date for all members in good standing as of July 25, 1996 is Wednesday
October 23, 1996 between 6:00pm and 9:00pm EST to Dick Grier, Sr. at
1-410-285-5554. Members who join on or after July 26, 1996 may call in on October 24,
1996 during the same time slot and same number.
Thanks for call in to: Steve Cunningham, D. Grier, Jr., Don Miller and especially to
Barbara Ermier who successfully got through to the P.C.S.

THE EDITOR’S SUGGESTED LATE SUMMER FIELD TRIPS

ORGANIZED FOSSIL TRIPS are done by the National Museum of Natural History
(Smithsonian Institution’s Resident Associate Program -- 202/357-3030)
and the Calvert Marine Museum, Solomons, Md. -- 410/326-2042

The list below are public areas where fossil collecting is permitted:
Breezy Point Beach: take east on Breezy Point Beach off Rte 261 south of Chesapeake
Beach. For more information: 410/535-0259
Brownie’s Beach: near Chesapeake Beach, south on Maryland Rte 261 in Calvert County.
To obtain more information, call Chesapeake Beach Town Hall at
410/257-2230 or 301/855-8398
Calvert Cliffs State Park: about 14 miles south of Prince Frederick on Rte 4.
More info: 301/888-1410
Flag Ponds Nature Park: about 10 miles south of Prince Frederick on Rte 4.
More info: 410/535-5327
Matoaka Beach Cabins: east of St. Leonard in Md - Adults: $3, Children under 12: $1.
Westmoreland State Park, VA: about 40 miles east of Fredericksburg off Rte 3.
Call at 804/493-8821

FIELDTRIP CHAIRPERSON is for grabs

We need volunteer(s) to fill in this important Club position.

How about doing something for the Club in return of its benefits

Make it your challenge and your contribution to all of us alike !!!
THE MARYLAND GEOLOGICAL SOCIETY, INC.
8052 Kavanagh Road, Baltimore, MD 21222
(410) 285-5554

CLUB PURPOSE: 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.

CORRESPONDENCE: Correspondence should be mailed to Barbara Ermler, Secretary, Route 2, Box 155, The Plains, VA 22171 — (703) 2535556.

MATERIAL FOR PUBLICATION: The Rostrum is published quarterly, beginning in December of each year. Material submitted for publication should be mailed to: Dominique M. Joos de ter Beerst, 7113 Game Lord Drive, Springfield Virginia 22153-1314

--- Permission is granted to reprint or quote any material in this newsletter, provided that proper credit is given to the author and this newsletter. This excludes any copyrighted articles.

AFFILIATIONS: The Eastern Federation of Mineralogical and Lapidary Societies, Inc.
The American Federation of Mineralogical Societies.

DUES: Annual dues are $15.00 per individual adult member and free to children under 18 years of age when accompanying a paying adult member. Applications for membership may be obtained by contacting Dick Grier, Sr., Membership Chairman, 8052 Kavanagh Road, Baltimore, MD 21222 — (410) 285-5554. Renewal dues are payable by January 1st of each year.

THE ROSTRUM
Dominique M. Joos de ter Beerst, Editor
7113 Game Lord Drive
Springfield, Virginia 22153-1314

TO:

"Knowledge is our destiny...."
Jacob Bronowski

FIRST CLASS MAIL
Time Value / Dated Material