



# JANUS

THE NEWSLETTER  
OF THE  
NORTH CAROLINA  
FOSSIL CLUB

1999 NUMBER 1

## Spring, 1999 Calendar

### March

- 25 ♥ Martin Marietta Quarry – Castle Hayne, NC  
Contact: John Everette (919) 847-4485
- 26-28 Tarheel Gem and Mineral Club Show  
Kerr Scott Building, N.C. State Fairground
- 28 NCFC Meeting - Business and Show & Tell 1:30  
NC State Museum of Natural Sciences, Raleigh

### April

- 17 Beachcombing – Onslow Beach, NC  
Contact: Mark Goodman (910) 355-9911
- 22 ♥ Martin Marietta Quarry – Rocky Point, NC  
Contact: John Everette (919) 847-4485

### May

- 1 ♣ Beachcombing – Liverpool Point, MD  
Contact: George Fonger (301) 977-0318
- 29-30 Aurora Fossil Festival, Aurora, NC  
Contact: Candace Holliday (919) 322-4238

### June

- 6 Martin-Marietta Quarry – Belgrade, NC  
Contact: Richard Tellekamp (910) 347-6361
- 13 Green's Mill Run – Greenville, NC  
Contact: Doug Meier (919) 872-0529

## PCS-Lee Creek Spring Collecting Canceled

Due to unsafe conditions in the mine, PCS has canceled the Spring collecting season. For some time, fossil collectors world-wide have dreaded that inevitable day when collecting at PCS would be indefinitely suspended while the old mine west of NC 306 was being shut down and the new mine to the east of the highway was opened. **This is not it!** There is even a tiny reason for optimism: PCS did schedule a call-in date (July 30) for the fall season.

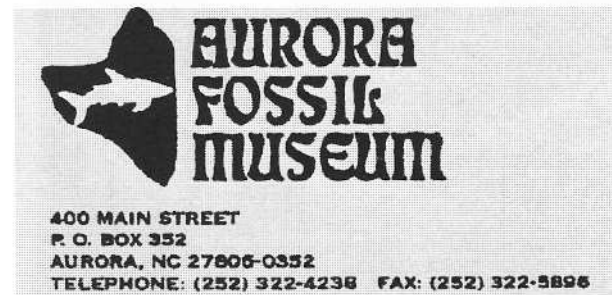
### General Rules:

Trips begin at 9:00 AM at the site. Exceptions: the Martin Marietta quarries at Castle Hayne and Rocky Point (♥) restrict admission to afternoons only. Those two trips begin at 11:15 AM. They also require a hard hat and do not provide it. Be sure to bring one. Arrive ahead of time. If you are expected and late, you will delay everyone. Safety first is always the rule – do not do anything to compromise your (or anyone else's) safety. If you are injured at a site, fossil collecting will almost certainly be banned there in the future.

- ♣ Meet at McDonalds in La Plata (see map) no later than 9:00.

## Aurora Fossil Festival

Volunteers are needed both to exhibit and to assist both Saturday and Sunday. Members willing to do either should contact Doug Meier (919) 872-0529 and let him know ASAP. NCFC is one of the major exhibitors for the AFF.



## Dear Friends of the Aurora Fossil Museum,

It comes a time in the evolution of a museum that it can no longer prosper on subsidies alone. For that reason, we have decided to hold an **Annual Fossil Auction** in conjunction with the **Annual Fossil Festival**.

We are soliciting donations of fossils, which will be catalogued and auctioned. All proceeds will be utilized by the Museum

A number of "Friends of the Museum" will finance the mailings and printing requirements. The Museum will not incur any expenses.

Any person donating a fossil will receive an appraisal, which can be used for a tax deduction, and a listing in the auction catalog, if he/she so desires.

We hope you will be generous and help support and nurture our wonderful Museum.

Please send your donations to: "Auction", Fossil Museum, 400 Main Street, Aurora, NC 27806-0352.

**The Auction will be held on Saturday, May 29<sup>th</sup> at 5:00 pm at the Fossil Museum.**

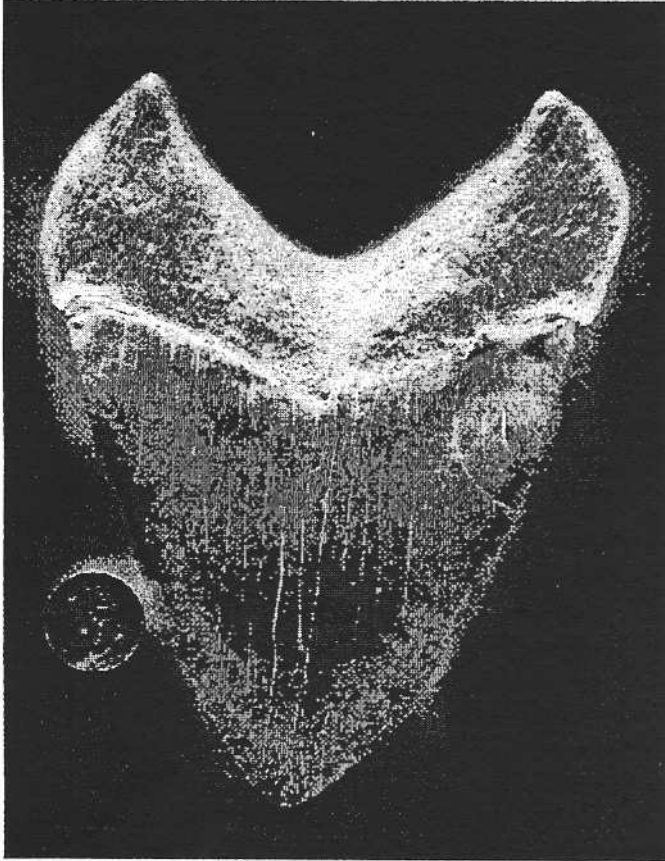
Be generous and excited and come and bid at our first "Annual Fossil Auction". Thank you for your interest and we look forward to seeing you on May 29, 1999. I will contact you again in the future. The Museum thanks you, Candace thanks you, and I thank you.

*Jay Goldberg*  
(H) (804) 526-5272, (O) (804) 520-1704, email: yajgl@aol.com.

*Please note: Only items specifically donated "for Auction" will be utilized in the sale. No museum fossils will be sold.*

## Raffle to Assist the Aurora Fossil Museum

To raise funds for the Museum a cast of a gigantic *C. megalodon* tooth found in Peru (it's over 7 inches high; that's a quarter beside it!) will be raffled off during the Aurora Fossil Festival. I have seen this cast and it is impressive; in fact, it is hard to see that it's not the real thing. Tickets may be obtained from Candace at the Museum's address: P.O. Box 352, Aurora, NC 27806-0352. They are cheap (\$1.00 apiece) so buy a lot!



## Fall, 1998 Trip Reports

Twenty members and guest met at the **Martin Marietta Quarry at Castle Hayne** on September 24th, 98. It was a beautiful day for fossil hunting with temperatures in the 80's and after signing in we were ready to go by 11:30. I think everyone had some good finds with the following being observed.

John Timmerman discovered "slit shell heaven" and stayed there the whole day finding them up to 5" and beautiful. Joy Pierce found her "usual stuff" as well as a nice *Squalicorax pristodontus*. Dom Joos de ter Beerst had a nice 31/8" *auriculatus*. Scott Chapman found a nice 1/2" Mosasaur tooth, croc and bony fish tooth and a pristine *Odontaspis winkleri*. Earl Guertin had 2 croc teeth and a nice small *auriculatus* tooth. Wayne Ervi had many small teeth, slit shell and sand dollars. Rick Olsen had a beautiful Mosasaur tooth, 2 *auriculatus*, *Squalicorax pristodontus* and many small teeth. Marshall Huey found a beautiful *Odontaspis winkleri*. Joanne Dubrock had a nice *Cretolamna biauriculata* and an *auriculatus* while Xan found a *Lintha wilmingtonensis*.

I think everyone found something and all had a good time.

*John Everette*

Eighteen members and guest met at the **Martin Marietta Quarry at Rocky Point** on October 22nd, 1998. What a perfect fossil hunting day - 60 degrees with the wind blowing 10 to 20 mph - first sunny and then cloudy and then turning cool - what else could one want? We got signed in and then proceeded to the designated parking area and each one took off for their favorite hunting areas. Returning to the parking area around 4:30 some had left but the following is some of the finds I observed.

Lilliam Corkum had the "finds" of the day - 2 perfect and beautiful *auriculatus*, one 3" and the other 2", *Pristis lathami* spinal disk, 3 shark disks and small shark teeth. Flipper Burdette had *Galeocerdo contortus*, *Alopias*, *Abdounia recticonia*, *Odontaspis winkleri*, over 30 sand dollars and shark disks. Daniel Beane found a nice *Odontaspis winkleri* and sawfish disks. Rick Olsen had small teeth, disks and a 3" *Pristis lathami* rostral tooth. Scott Chapman had a beautiful *Nebrius thielensis* (nurse shark tooth) and a piece of Archaeocete molar.

Joy Pierce was host to 2 guests from Colorado - Doug and Jenny Nelson. Doug found a broken *Hexanchus agassizi*. By the way, Joy found her "usual stuff".

It seems that not as many *auriculatus* were found as usual but a lot of nice other material was found and I had a fabulous time.

*John Everette*

## Duplin Marl (Upper Pliocene)

George C. Fonger

While the Duplin Marl (Upper Pliocene) of Craven and Jones County, North Carolina is known for a vast variety of marine invertebrates, it also produces an interesting collection of vertebrate specimens, including sharks, rays, bony fish, marine mammals and land mammals. Bird remains are very rare and in instances of sediment reworking such fragile bones would be destroyed by water action. The Duplin Marl beds ranged from a sandy shell hash, phosphatic indurated lenses and material reworked from the Oligocene River Bend Formation and the Middle Eocene Castle Hayne Formation. It must be noted that some of the vertebrate finds are similar those in the Yorktown Formation (Upper Pliocene) while others are unique to the Duplin Marl.

## FAUNA

Locality Data: Martin Marietta Quarry, New Bern, NC.

### SHARKS

|                               |                           |
|-------------------------------|---------------------------|
| <i>Carcharodon carcharias</i> | <i>Isurus hastalis</i>    |
| <i>Carcharodon megalodon</i>  | <i>Isurus retroflexus</i> |
| <i>Galeocerdo contortus</i>   | <i>Odontaspis sp.</i>     |
| <i>Galeocerdo cuvier</i>      | <i>Carcharias sp.</i>     |
| <i>Parotodus benedeni</i>     |                           |

### RAYS/SKATES

|                                    |                       |
|------------------------------------|-----------------------|
| <i>Aetobatus irregularis</i>       | <i>Myliobatis sp.</i> |
| Unidentified skate dermal ossicles |                       |
| Unidentified caudal barbs          |                       |

## BONY FISH

*Chilomycterus* sp.                      *Sphyrena*  
*Ascipenser ornatus*  
Unidentified skull fragment  
Unidentified vertebrae, hypural fans

## REPTILES

*Gavialisuchus* sp.?                      *Tryonox* sp.  
Unidentified turtle shell fragments

## BIRDS

Unidentified leg bone fragment

## MAMMALS

*Equus*    *Bison* sp.  
*Physeter* sp.                                      *Kogia* sp.  
Cetacean auditory bullae and periotic bones  
Isolated cetacean vertebrae (whales, porpoises)  
Unidentified cetacean ribs and bone fragments  
Porpoise rostral fragments  
Cetacean (cetothere?) jaw segments  
Seal jaw fragment  
Seal toe bone

## RIVERBEND FORMATION (UPPER OLIGOCENE)

Note: Light orange molditic limestone crumbly

### SHARKS

*Carcharodon auriculatus*                      *Isurus praecursor*  
*Carcharias* sp.                                      *Galeocerdo contortus*  
*Odontaspis* sp.                                      *Galeocerdo* sp.  
*Isurus novus*    *Physogaleus secundus*  
*Notorhynchus primigenius*                      *Squatina* sp.  
Unidentified spinal centra

### RAYS/SKATES

*Myliobatis* sp.                                      *Burhamnia* or *Plincthius* sp.  
Unidentified caudal barbs  
Unidentified spinal centra

### REPTILES

Unidentified turtle shell fragments

### BIRDS

None noted at this time

### MAMMALS

None noted at this time

## CASTLE HAYNE FORMATION (UPPER EOCENE)

### SHARKS

*Carcharodon auriculatus**Isurus praecursor*

### RAYS/SKATES

None noted at this time

### BIRDS

None noted at this time

### REPTILES

Turtle shell fragments

### MAMMALS

Archaeocete whales (jaws, skull fragments, isolated teeth)

## BELGRADE FAUNA (LOWER MIOCENE)

### SHARKS

*Carcharodon* sp.                                      *Carcharias* sp.  
*Odontaspis* sp.                                      *Hemipristis serra*?  
*Galeocerdo contortus*                              *Galeocerdo* sp. Note coarse serrations\*\*\*  
*Nebrius thielensis*                                      *Isurus* sp. Rare?????

### RAYS/SKATES

*Myliobatis* sp. Common single files, occasional plates  
*Aetobatis* sp. Occasional  
*Dasyatis* sp.    *Rhinoptera* sp.  
Tail spines unidentified

### BONY FISH

*Sphyrena* \*\*\*\* Teeth get quite large\*\*\*  
*Scacienops*?  
Teleost vertebrae

### BIRDS

Unidentified bird bones in SI collection

### MAMMALS

Horned beaver tooth 3rd molar in SI collection  
Horse tooth \*\*\*\* Probably Pleistocene in origin

## GEOLOGY/STRATIGRAPHY

1) Detailed discussion in Lauck Ward's USGS Professional paper.

2) Belgrade Formation (two distinct units) one a phosphatic gray colored clay-sand mixture with numerous ray files and shark teeth. Material screens quite well and loaded with micros.

The upper portion of the Belgrade Formation is a three foot shell bed interlaced with sands. Numerous teeth intact. Again, skates and rays predominate followed by turtle shell material. Often larger vertebrate remains are in good condition. Teeth are often well preserved.

3) River Bend Formation (Upper Oligocene) extensive outcroppings in the Belgrade Martin Marietta quarry. Some small shark teeth are found but the unit is not as productive as the Martin Marietta New Bern quarry. Note: at New Bern there is a type facies for the River Bend located just below the railroad track.

4) Belgrade quarry -- Not much peat here compared to the thickness at New Bern (approx 3-5 feet). Also this quarry has a large 3-5 seam of Cobble gravels which contain a mixture of Duplin and unidentified Pleistocene sequences.

5) New Bern quarry contains some interesting stratigraphy.

A) Two large streams (small rivers?) cut from the old side of the quarry and come across the facility.

B) High volume high velocity deposits (i.e., large accumulations of indurated material, shark teeth (big ones ranging in fair to good condition). Material is a mixture of Eocene through Pleistocene.

C) A few seams of white sand with phosphate beads (another stream) produced a mixed faunal assemblage.

## Dentition Study for *Parotodus Benedeni*

Thomas E. Shenk

Determining whether a tooth from a *Parotodus benedeni* is from the upper or the lower jaw is problematic. The purpose of this article is to explore the various physical characteristics of teeth from the *P. benedeni*, thereby establishing some criteria for identifying tooth location.

The general consensus among members of the scientific community and the collector's world at large is that the shape and overall mass of the root of a fossil shark's tooth gives one a sense of whether the tooth was situated in the upper or lower jaw. Those roots which are widely U-shaped are from the upper jaw; while those that are V-shaped and more robust are lower. Although this classification method may provide some degree of success in establishing tooth location for most species, *P. benedeni* tooth roots do not readily lend themselves to this classification method. The shape of most upper and lower tooth roots from this species are generally indistinguishable from one another. Accordingly, I believe a much better approach for determining *P. benedeni* tooth location is the study of the crown.

A word of caution, there are at least two variables which make it more difficult to determine whether a *P. benedeni* tooth is from the upper or lower jaw. These being the age of the shark and the position of the tooth (anterior, lateral, posterior) in the jaw. For the purpose of this study, we will assume that the teeth are from a mature shark and from a lateral position in the jaw. (For those of us acquainted with the basic dentition of the *Parotodus benedeni*, this latter assumption is not too hard to agree to.)

From my observations and study, I have determined that there are 6 distinguishing physical characteristics of the tooth crown from a *Parotodus benedeni*. These being:

1. Crown Width
2. Crown Thickness
3. Crown Curvature
4. Crown Angularity
5. Crown Proportion
6. Crown Tip Curvature

The first characteristic, crown width, is probably the easiest to observe. Basically, the width which is measured across the crown from side to side, is much wider on an upper tooth than on a lower tooth. Another way of observing this characteristic, particularly in cases where only one specimen is available or no specimen from the opposite jaw location is available for comparison, is to note that on an upper tooth the width of the crown at its widest part is not much shorter than the length of the crown (from the edge of the root to the tip). Whereas, on a lower tooth, the crown width is generally much shorter than its crown length (sometimes as little as half the length).

The second characteristic, crown thickness, is best explained if you can imagine taking a cross section (or slice) of the crown at approximately  $\frac{1}{4}$  of the distance from the edge of the root to the crown tip. Viewing the shape of the cross section as if you were looking to see the inside composition of the crown; one side (labial) will be somewhat flat, while the other side (lingual) will be curved.

The curved side on an upper tooth crown will be somewhat ovular in shape, while the curved side on a lower tooth crown will be more rounded or circular. In other words, the crown is more compressed on an upper tooth, or more robust on a lower tooth (depending on one's frame of reference).

The third characteristic, crown curvature, is the degree at which the crown edge curves from the root to the tip of the crown. The outside crown edge of all upper teeth exhibit a smooth and prominent curve. As one would expect, the inside crown edge would therefore have a slightly more pronounced curve than the outside crown edge. The inside crown edge of a lower tooth, however, is more characteristic of a slant than a curve. In fact, most lower teeth exhibit what appears to be more of a slant than a curve for both the inside and outside crown edges.

The fourth characteristic, crown angularity, is the degree at which the edges of the crown converge to the tip. The crown of an upper tooth generally exhibits a gradual convergence, while a lower tooth crown exhibits a sharper, more angular convergence. A lower tooth will generally look more pointed or sharper than an upper tooth because of this more angular convergence and because, as noted above, the lower tooth crown is generally narrower and thicker (more robust) than an upper tooth crown.

The fifth characteristic, crown proportion, explores the proportion of crown size to root size. An upper tooth has a crown which is proportionately larger in surface area to the surface area of the root than a lower tooth crown has to its root. Of course, the proportion will differ from tooth to tooth. Many times I have observed that the surface area of the crown of an upper tooth will range from one half to equal the surface area of its root. Whereas, the surface area of the crown of a lower tooth will range from a quarter to a third of the surface area of its root.

The sixth characteristic, crown tip curvature, is a prominent twist at the very tip of the crown similar to that found on a *Galeocerdo contortus*. I have observed this twist on some teeth from the upper jaw of the *Parotodus benedeni*, but not on any teeth from the lower jaw. However, not all teeth from the upper jaw exhibit this characteristic.

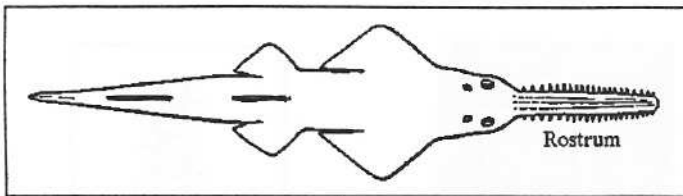
In summary, I believe that noting the above physical characteristics in our *Parotodus benedeni* specimens will help us to identify whether the tooth is from the upper or lower jaw. The more characteristics observed, the easier to establish tooth location. I welcome comments and any additional observations. If you have a *Parotodus benedeni* specimen that is difficult to identify and would like my opinion as to whether it is an upper or lower tooth, please send me a photo or two (the more views, the better) and I will advise you.

Thomas E. Shenk P.O. Box 1397 Ellicott City, MD. 21041

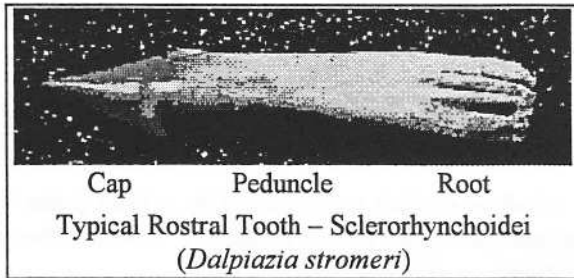
## Fossil Sawfish

Richard Chandler

“Batoids characterized by a long, flattened rostrum, laterally set with rostral teeth showing an enameloid cap and a peduncle with a closed basal face; the rostral teeth are not embedded in alveoli . . .” is how Cappetta, in the definitive *Condriichthyes II: Mesozoic and Cenozoic Elasmobranchii*, begins his discussion of the suborder Sclerorhynchoidei of sawfish which flourished during the Cretaceous. These cartilaginous fish are therefore classified with the skates and rays, but having a rostrum, or snout, edged with “teeth” which are not set in sockets. In the fossil record sawfish go at least as far back as the Cenomanian Age of the Cretaceous Period, almost 100 million years ago. The most common sawfish fossils are the rostral teeth but other remains include oral teeth, spinal disks, fragments of rostra, and, in very rare cases, impressions of the whole animal.



Generic Sawfish – top view  
(from Arambourg)



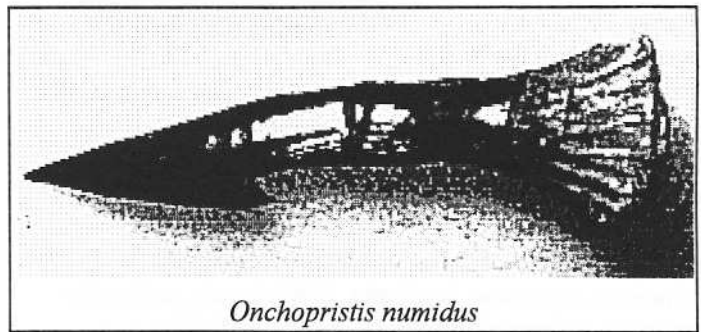
Cap Peduncle Root  
Typical Rostral Tooth – Sclerorhynchoidei  
(*Dalpiazia stromeri*)

For the next 35 million years thirty or forty species of sawfish came and went, several having very exotic rostral teeth. During this time, some of these species must have been about the largest animals in the ocean. In modern oceans, certain species of sawfish are perhaps the largest of predatory fish: the *Encyclopaedia Britannica* indicates they grow to 23 feet in length and a book on Indian fish claims 7.6 meters (almost 25 feet). That’s right, they grow at least as long as the great white shark *Carcharodon carcharias*, although they do not get as heavy. There is a more-or-less complete fossil rostrum (lacking teeth) from the Eocene which is about seven feet long. I have seen an incomplete *Pristis lathamii* rostral tooth from South Carolina which was about six inches long, two inches wide, and three quarters of an inch thick! Complete, it would have been at least an inch longer, comparable with the very largest *Carcharocles megalodon* teeth. It is difficult to extrapolate the size of the owner of this tooth. Thirty feet? Almost certainly. Forty feet? Not unreasonable.

Some Cretaceous sawfish were quite small. The genus *Ischyrrhiza* boasts some of the largest species as well as some of the smallest. Adult *Ischyrrhiza texana* rostral teeth are all of a gigantic one sixth-inch in length! As the illustration to the right shows, even though it is small, this rostral tooth is rather exotic. Some others make this one seem plain. Perhaps the rostral tooth most familiar to casual collectors is *Onchopristsis numidus*, commonly found in the famous phosphate mines of Morocco. They are usually large and showy, a beautiful orange-red in color, having a spear tip with one barb (very rarely two barbs). *Onchopristsis dunklei*, on the other hand, commonly have several barbs:

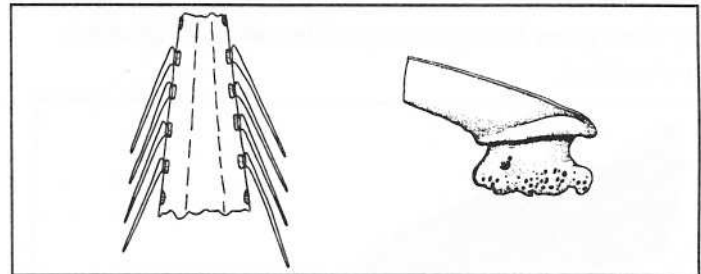


*Ischyrrhiza texana*  
(from Welton and Farish)



*Onchopristsis numidus*

The rostrum of *Ctenopristsis nougareti*, looks as if it were set with fine, backwards slanting needles. These rostral teeth are quite fragile and are understandably difficult to find unbroken:



*Ctenopristsis nougareti* – Rostral fragment and base of tooth  
(from Cappetta)

One of the most curious fossils thought possibly to be a rostral tooth is *Peyeria libyca*, found in the Cenomanian Age (97.5 – 91 million years ago) of northwest Africa. The main problem with its being a rostral tooth is that it much more closely resembles those of the post-Cretaceous suborder, Pristioidei. If it does belong to this suborder then it is the only known pre-Eocene species to do so. Cappetta speculates that it may be a dermal denticle from some other batoid.

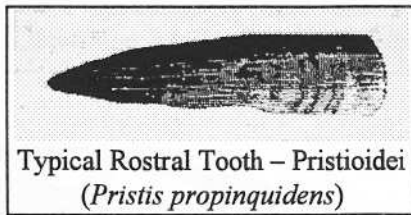


*Peyeria libyca*

All Cretaceous sawfish (with the possible exception of *Peyeria*) belong to one suborder, the Sclerorhynchoidei, which became extinct during the famous KT-extinction at the end of the Cretaceous Period, about 65 million years ago. At this time approximately 70% of all animal species on earth died off. (Extensive as it was, this was not the worst extinction: at the end of the Permian more than 90% of species died.) Arising from the ashes, so to speak, was a whole new suborder of sawfish, the Pristioidei. The most noticeable difference between the two suborders is that the rostral teeth of the Pristioidei are, for the most part, long, slightly down-curved, flattened bone-like blades lacking any enamel and set into sockets in the rostrum. Because of the absence of enamel, these rostral teeth usually did not preserve well.

Regardless of this preservation problem, the genus *Pristis* is especially rich in the fossil record. Peter and Gabriele Englehard, German

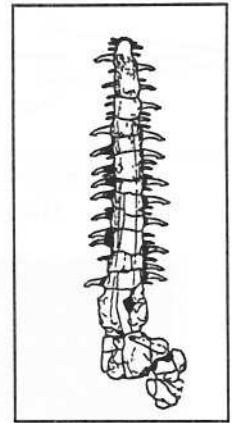
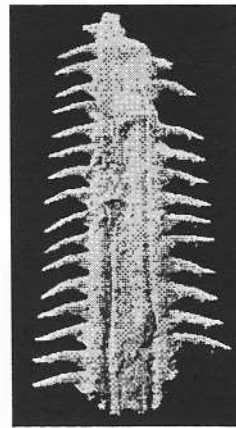
collectors with whom I have traded extensively, told me that they have references in the scientific literature for the following 25 *Pristis* species: *angustior*, *antiquorum*, *aquitanicus*, *aquitanus*, *bisulcatus*, *brayi*, *brevis*, *cudmorei*, *cuspidatus*, *fajumensis*, *hamatus*, *imhoffi*, *lathami*, *malembeensis*, *microdon*, *mucrodens*, *pectinata*, *pectinatus*, *perotteti*, *pickeringi*, *pristinus*, *pristis*, *propinquidens*, *semisagittatus*, *zwijsron*. To be sure, some of these are probably junior synonyms (*i.e.*, a new name for an established species) and some refer to extant species, but the only shark genus having a comparable number of species is *Carcharhinus*.



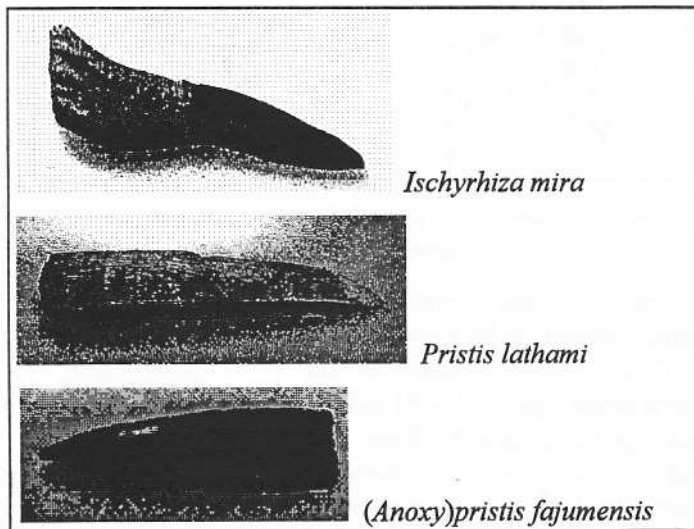
Typical Rostral Tooth – Pristioidei  
(*Pristis propinquidens*)

and *Anoxypristis* primarily concerns the anatomy of the rostrum and until a sufficiently well-preserved rostrum of this last species is discovered we will not be able to decide its proper genus.

A recent auction house catalogue listed (at an estimated value of \$5000 – \$8000!) a “sawshark” rostrum (correctly identified as *Onchopristis numidus*) from Morocco. Of course, *O. numidus* is the common sawfish fossil from Morocco. I strongly suspect this is not authentic, for two reasons: first, it is too perfect (see picture on the left below). In his authoritative 1940 paper on sawfish, Arambourg has a drawing of a rostrum from *O. numidus* (see picture on right below). The other reason that I think the left rostrum has been “reconstructed” is because when I mentioned it to Gordon Hubble, he gave me his characteristic little chuckle and told me he had seen three of these at the big annual show in Tucson, and with a little prodding, their owner admitting fabricating them.



Modern sawfish were studied in a 1793 paper by John Latham (remember *Pristis lathami*?). I include the wonderful drawings of rostra from that paper.

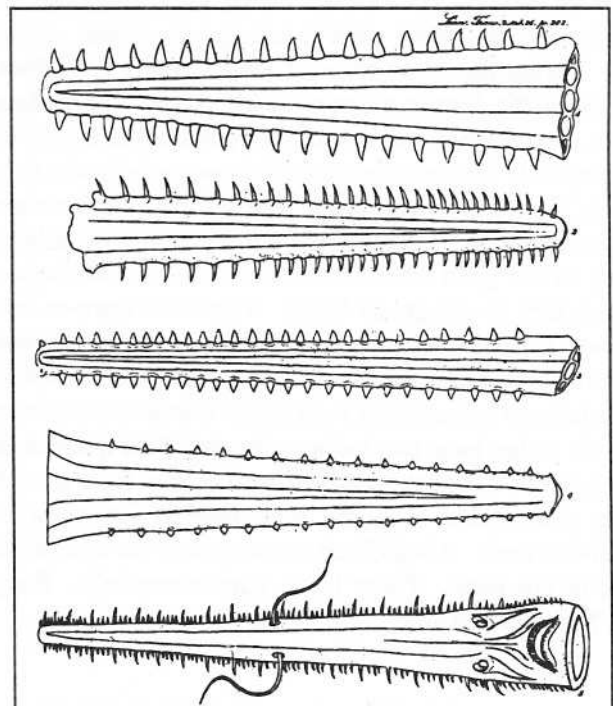


*Ischyrrhiza mira*

*Pristis lathami*

(*Anoxy*)*pristis fajumensis*

In North Carolina there are at least three species of fossil sawfish, *Ischyrrhiza mira*, *Pristis lathami*, and (*Anoxy*)*pristis fajumensis*. The first species is Cretaceous, the second Eocene, while the third seems to be found from the Eocene to the Miocene. There is uncertainty regarding the genus of the last species. The distinction between *Pristis*



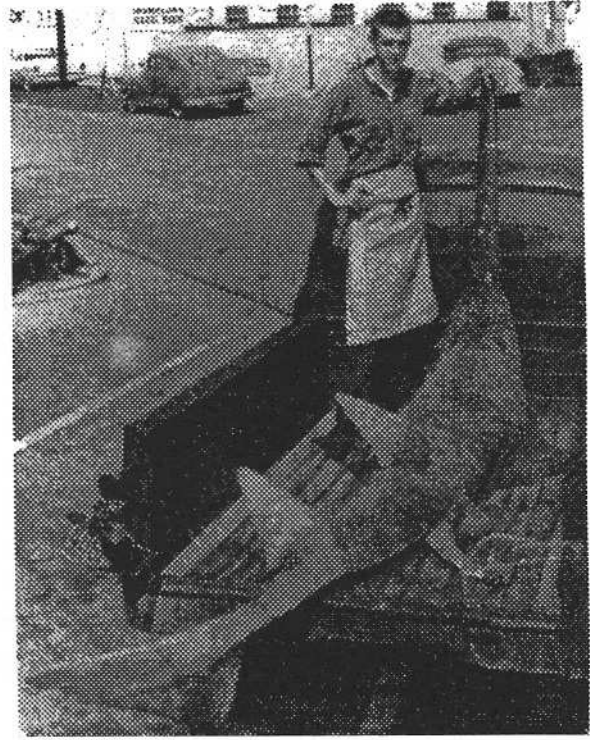
From top to bottom these are identified as *Pristis antiquorum*, *P. pectinatus*, *P. cuspidatus*, *P. microdn*, and *P. cirratus*. We know this last species today as *Pristiophorus cirratus*, one of the modern sawsharks.

One sad and disturbing note: the modern smalltooth sawfish (*Pristis pectinata*) has disappeared from the eastern coast of the United States. The last record of one having been caught in North Carolina dates from 1963 and a 1981 survey of the Indian River Lagoon in Florida, where they were once abundant, found none. To the right is a photograph of a large sawfish caught off Morehead City, NC on July 7, 1958.

### Sawfish Name Origins

(Most are Greek; Latin (L) where noted)

|  |   |
|--|---|
| <i>Onchopristis numidus</i>              | <i>onkinos</i> : hook; <i>pristis</i> : saw<br>Numidia: I Century BC Roman province, part of modern Algeria                 |
| <i>dunklei</i>                           | for David Dunkle  |
| <i>Ganopristis leptodon</i>              | <i>ganos</i> : bright; <i>pristis</i> : saw<br><i>leptos</i> : slender; <i>odon</i> : tooth                                 |
| <i>Dalpiazia stromeri</i>                | <i>dalos</i> : fire-brand; <i>piaz</i> : to press tight<br>for Ernst Stromer  |
| <i>Schizorhiza stromeri</i>              | <i>schizo</i> : split; <i>rhiza</i> : root<br>for Ernst Stromer   |
| <i>Ischyrhiza mira</i>                   | <i>ischyrus</i> : strong; <i>rhiza</i> : root<br><i>mirus</i> (L): wonderful  |
| <i>texana</i>                            | for Texas   |
| <i>monasterica avonicola nigeriensis</i> | <i>monas</i> : single; <i>tereo</i> : to pierce<br><i>avos</i> : withered; <i>kolos</i> : defective (??)<br>for Nigeria     |
| <i>Sclerorhynchus pettersi</i>           | <i>sclero</i> : hard; <i>rhynchos</i> : snout, rostrum<br>for Sunday Petters (?)  |
| <i>Ctenopristis nougaret</i>             | <i>cteno</i> : comb; <i>pristis</i> : saw<br>for M. Nougaret, "maître mineur"<br>(Arambourg)                                |
| <i>Peyeria libyca</i>                    | ??<br>for Libya   |
| <i>Pristis lathamii</i>                  | <i>pristis</i> : saw<br>for John Latham   |
| <i>mucrodens propinquidens</i>           | <i>mucro</i> (L): sharp point; <i>dens</i> : tooth<br><i>propinquus</i> (L): related to another;<br><i>dens</i> : tooth     |
| <i>Anoxypristis fajumensis</i>           | Orig. <i>oxys</i> : sharp; <i>pristis</i> : saw;<br><i>an</i> (not) added for homonymy<br>for the Fajum Depression in Egypt |
| <i>Propristis schweinfurthi</i>          | <i>pro</i> : in front of; <i>pristis</i> : saw<br>for Herr Prof. Dr. Schweinfurth<br>(Dames)                                |



### NORTH CAROLINA FOSSIL CLUB, INC. TREASURER'S REPORT.- DECEMBER 31, 1998

|   |                       |                    |
|---|-----------------------|--------------------|
| Balance Brought Forward -<br>12/31/1997 |                       | \$1761.18          |
| <b>INCOME:</b>                          |                       |                    |
| Dues                                    | 4215.00               |                    |
| Neogene Fossils (477)                   | 2419.00               |                    |
| Paleogene Fossils (314)                 | 1606.00               |                    |
| Seal/Dolphin (151)                      | 1540.00               |                    |
| T-Shirts & Sweat Shirts (167)           | 1950.00               |                    |
| Vinac (15)                              | 47.00                 |                    |
| Vertebrate Fossils - Kocsis (32)        | 480.00                |                    |
| Fossil Sharks - Kent (4)                | 28.00                 |                    |
| Eocene Vertebrates - Ward (4)           | 32.00                 |                    |
| Contribution                            | 100.00                |                    |
|   | <b>Total Income</b>   | <b>12,417.00</b>   |
|   | <b>Total</b>          | <b>\$14,178.18</b> |
| <b>EXPENSES</b>                         |                       |                    |
| Club Meetings                           | 178.78                |                    |
| Fossil Fair                             | 689.36                |                    |
| Aurora Fossil Festival                  | 25.78                 |                    |
| Miscellaneous (Supplies, PO Box, etc.)  | 294.17                |                    |
| Printing (Janus, Membership List)       | 694.83                |                    |
| Postage, Stamps                         | 931.69                |                    |
| Fossil Vertebrates - Thomas (100)       | 375.00                |                    |
| Neogene Fossils (500)                   | 1169.70               |                    |
| Paleogene Fossils (500)                 | 1361.91               |                    |
| T-Shirts (168)                          | 1399.04               |                    |
| Royalties (Neogene, Paleogene, Seal/)   | 1734.00               |                    |
| Dinosaur Research                       | 500.00                |                    |
| Explorer Post #950 - Paleo. Survey      | 200.00                |                    |
| Onslow County Museum - Donation         | 200.00                |                    |
| Membership (Gift)                       | 20.00                 |                    |
| Returned Checks                         | 45.00                 |                    |
| Bank Service Charges and Checks         | 24.38                 |                    |
|   | <b>Total Expenses</b> | <b>\$9843.84</b>   |
| Balance on Hand - 12/31/1998            |                       | \$4334.34          |

Trish Kohler, Treasurer

**NORTH CAROLINA FOSSIL CLUB, INC.**  
(FOUNDED 1977)

|                                 |                        |                |                    |
|---------------------------------|------------------------|----------------|--------------------|
| <b>PRESIDENT</b>                | Doug Meier             | (919) 872-0529 | Raleigh, NC        |
| <b>VICE PRESIDENT</b>           | Ramona Krailler        | (919) 460-8725 | Morrisville, NC    |
| <b>IMMEDIATE PAST PRESIDENT</b> | Richard Tellekamp      | (910) 347-6361 | Jacksonville, NC   |
| <b>TREASURER</b>                | Trish Kohler           | (919) 383-6328 | Durham, NC         |
| <b>SECRETARY</b>                | Joanne Panek-Dubrock   | (919) 362-6392 | Cary, NC           |
| <b>MEMBERSHIP CHAIRPERSONS</b>  | Roxada/Robert Storey   | (919) 544-2017 | Durham, NC         |
| <b>EDITOR, JANUS</b>            | Richard Chandler       | (919) 851-2153 | Raleigh, NC        |
| <b>BOARD</b>                    | Richard Aultman (2000) | (704) 396-7444 | Granite Falls, NC  |
|                                 | Mike Hogan (1999)      | (919) 942-2877 | Chapel Hill, NC    |
|                                 | Joe Magura (2000)      | (919) 460-8725 | Morrisville, NC    |
|                                 | Richard Olsen (2000)   | (919) 247-4762 | Atlantic Beach, NC |
|                                 | Joy Pierce (1999)      | (919) 489-8149 | Durham, NC         |
|                                 | Adair Poole (2000)     | (919) 829-0142 | Raleigh, NC        |
|                                 | Sam Schmidt (1999)     | (919) 494-1128 | Franklinton, NC    |
|                                 | Vince Schneider (1999) | (919) 779-9338 | Garner, NC         |



**1999 MEMBERSHIP APPLICATION - N. C. FOSSIL CLUB**

NAME(S) \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY, STATE, ZIP \_\_\_\_\_

PHONE(S) (INCLUDE AREA CODE) \_\_\_\_\_

E-MAIL ADDRESS \_\_\_\_\_

|                                   |                            |         |          |
|-----------------------------------|----------------------------|---------|----------|
| INDICATE TYPE(S) OF MEMBERSHIP(S) | INDIVIDUAL (NEW)           | \$20.00 | _____    |
|                                   | INDIVIDUAL (RENEWAL)       | \$10.00 | _____    |
|                                   | HOUSEHOLD (NEW OR RENEWAL) | \$ 5.00 | _____    |
|                                   | TOTAL ENCLOSED             |         | \$ _____ |

SIGNATURE \_\_\_\_\_

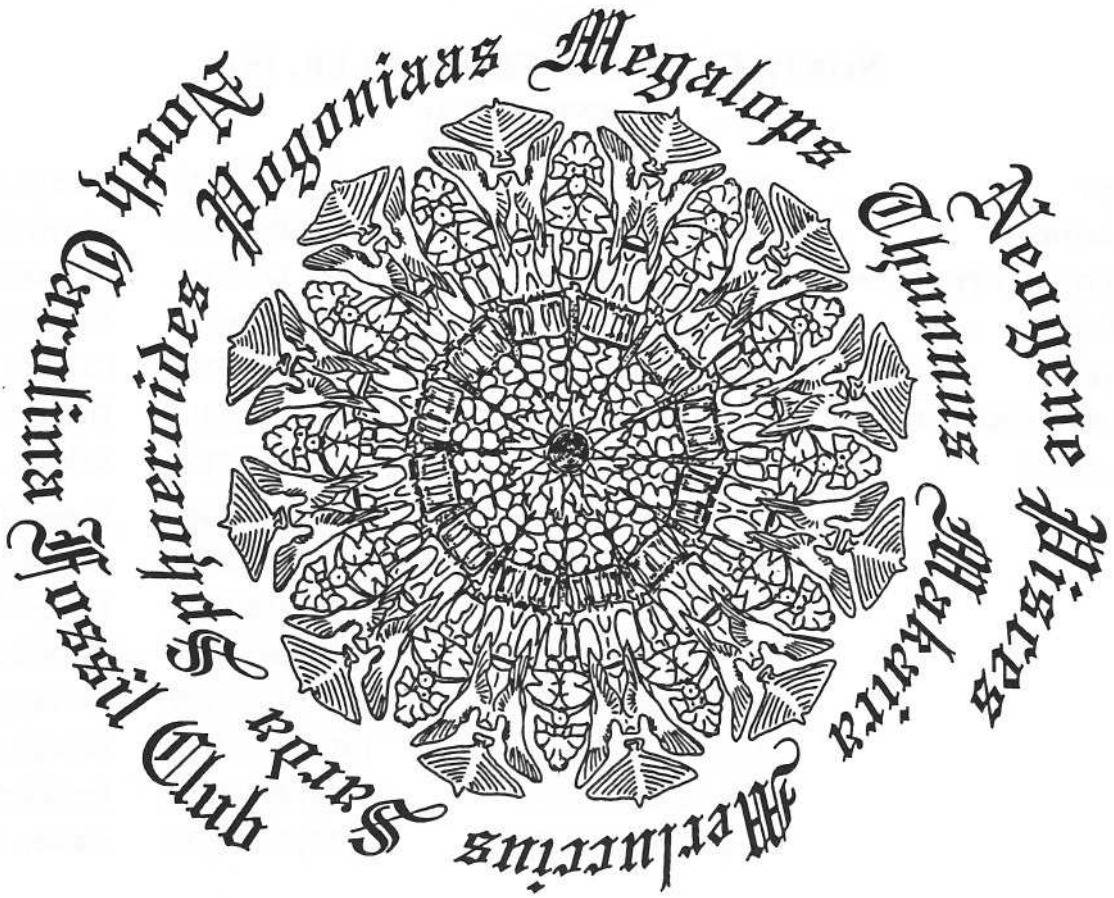
DATE \_\_\_\_\_

Children of NCFC members who are dependent minors and living at home may accompany parents on any trip EXCEPT PCS-Lee Creek or where otherwise noted. Only 15 positions on the PCS-Lee Creek trip are available to members who reside outside of North Carolina.

Memberships are effective from January through December of the year (or portion of the year) of the date of application. For example, persons joining in August will need to renew their membership 5 months later in January.

**MAIL TO: NC FOSSIL CLUB, P.O. BOX 13075, RESEARCH TRIANGLE PARK, NC 27709**

New T-Shirt Design by John Timmerman



NORTH CAROLINA FOSSIL CLUB  
P. O. BOX 13075  
RESEARCH TRIANGLE PARK, NC 27709