

Janus

The Newsletter
of the
North Carolina
Fossil
Club

1994 Number 1

Calendar - Spring, 1994

March

- 12 ♠ Texasgulf Phosphate Mine, Aurora, NC
Contact: Sarah Milkovits (919) 876-0650
- 24 ♥ Martin-Marietta Quarry, Rocky Point, NC
Contact: John Timmerman (910) 452-0943
- 26 Martin-Marietta Quarry, Cross, SC
Contact: Vance McCollum (803) 873-7334

April

- 9 ♦ Egypt Coal Mine, Sanford, NC
Contact: Joy Pierce (919) 489-8149
- 17 ♣ NCFC Spring Meeting - See Page 2
Powell Dr. Community Center, Raleigh

May

- 14 Martin-Marietta Quarry, Belgrade, NC
Contact: Richard Tellekamp (910) 347-6361
- 15 ♣ Giant Cement Quarry, Harleyville, SC
Contact: Mike Hogan (919) 942-2877
- 28-29 Aurora Museum Fossil Fair - See Below
Contact: Mike Hogan (919) 942-2877

June

- 4 Onslow Beach, Camp LeJeune, NC
Contact: Rita/Tom McCabe (910) 347-5711

♠ **Reservations Absolutely Required.** Call-in Date: Feb. 26. Do not call before 8:00AM. According to the vote last year the spring trip to Texasgulf is first-call-first-go. If you don't get a spot on the spring trip, you will have a 2 hour call-in advantage for the fall trip.

- ♥ Note Thursday Trip. We can visit this quarry only when they work. Hardhats required.
- ♦ Trip limited to 10 members and guests.
- ♣ Note Sunday Date.

All trips begin at 9:00 at the site unless specified otherwise. For maps see p. 8. It is expected that you will call the contact person for any trip you plan to attend. If your plans change it is imperative that you call the contact person in time for him/her to fill your position with someone on the waiting list.

You may bring guests on any trip except the one to Texasgulf. Children under 18 may attend (except the Texasgulf trip) if accompanied by a responsible adult.

It seems unnecessary to extoll the virtues of the **Texasgulf Phosphate Mine** near Aurora, NC. This is the best there is, for us, at least. Three major formations are present: Pungo River, Yorktown, and James City. All are fantastically prolific.

The **Martin-Marietta Quarry at Rocky Point, NC** has been one of the best Eocene sites we visit but during the last two years it has received very heavy collecting pressure. Don't go expecting to bring home several *C. auriculatis* teeth, a *Harmatuki* and a couple of *Hardouinia* echinoids; those days are long gone. It will still produce some of the common *Echinolampas* echinoids and the *Periarchus* sand dollars and you may get lucky on some of the scarcer stuff.

In the past we have had dismal luck at the **Martin-Marietta Quarry at Cross, SC** but this time we will have Vance McCollum leading us. Those of you who heard Vance speak at the NCFC meeting in January will know that this time things should be different, if there is anything in this quarry that can be found.

The **Egypt Coal Mine near Sanford, NC** is the oldest site we visit. The spoil piles from this mine (which was active during the 18th and 19th Centuries) produce Triassic fish scales and phytosaur teeth and coprolites. You need a hammer, chisel, and a utility knife blade to split the rather soft material in the spoil piles. Meet trip leader Tom Burns at 9:00 at the Shoney's Restaurant on the southwest side of US 421 just north of its intersection with US 1 in Sanford.

Hosts Richard Tellekamp and Bill Little ensure that your trip to the **Martin-Marietta Quarry at Belgrade, NC** will be an excellent fossil collecting experience, especially if you are a beginner. This material is from a Pleistocene river bed but contains many Eocene and Miocene reworked fossils. These

include some impressive *C. megalodon* and crocodile teeth.

Our last visit to the **Giant Cement Quarry at Harleyville, SC** was so successful I'm sure we are all anticipating this trip. Recognize that this is a relatively small quarry which gets a lot of collecting pressure when it is open. Whether or not we will have a time to write-home-about will probably depend on how often the quarry has been open this spring. Fossils are Eocene marine and Pleistocene swamp.

Onslow Beach on the **Camp LeJeune** Marine Base near Jacksonville, NC is one of the better beach collecting sites. The date was chosen with the tide in mind (low tide right around 10:00) so you should have a wide beach for about 3-4 hours. Meet Rita/Tom McCabe at the entrance to Camp LeJeune at 9:00 (see map).

Winter Club Meeting

The winter meeting of the NCFC was held at the Powell Drive Community Center in west Raleigh on January 23. The approximately 40 members and guests who attended were given a thorough and intriguing look at South Carolina fossil formations by Vance McCollum, a veteran collector from Summerville, SC (near Charleston). Vance had brought a table full of museum quality examples of his efforts over the years as well as a table of fossil specimens and fossil based jewelry which were for sale. For me, the most striking of his finds was a fragment of archaeocete jaw containing two perfect premolars, each nearly as large as my four fingers. He also had many very nice *C. angustidens* teeth from the (Oligocene) Chandler Bridge Formation which were particularly striking in their many different colors.

Following Vance's presentation there were about two hours worth of show-and-tell with many members bringing their latest finds. Keith Sturgeon, just off the plane, had a large box of Pliocene and Pleistocene fossils from Kenya. John Timmerman dropped everyone's jaw with a gigantic 7+" *C. megalodon* tooth he had carved to perfection from mahogany. I brought two *C. auriculatis* teeth from Rocky Point which originally were true heart breakers with their broken tips but which Dave Grabda had very expertly restored for me (see below: "Shark Dentistry - Revisited").

Spring Club Meeting

I hope for a large turn-out for the Spring meeting on Sunday, April 17, again to be held at the Powell Drive Community Center in west Raleigh (see map on page 8). John Timmerman and I will give a slide show on "The Fossils of Rocky Point". John and I (and others) have extensively collected this quarry for about two years and I think you will be a little surprised at the length of the list of fossil species we have put together.

Interested members are invited to attend the Board meeting beginning at 12:00. The program will follow at 1:00. Please bring your Rocky Point fossils - John and I wish to have as complete a list as possible. Any other show-and-tell is also welcome as well as items you might have for sale or trade.

Aurora Museum Fossil Festival

Mary Weeks, curator of the Aurora Fossil Museum has asked our assistance in providing exhibits for this festival. Now is your opportunity to repay some of the generosity that Texasgulf has bestowed on us for many years. If you are willing to participate, please contact Mike Hogan as soon as possible.

NORTH CAROLINA FOSSIL CLUB, INC.			
Post Office Box 2777			
Durham, North Carolina 27705			
December 31, 1993			
TREASURER'S REPORT - End of Year			
Balance Brought Forward	December 31, 1992		\$2374.39
Income			
Dues	3294.00		
T-Shirts	801.00		
Vinac	4.50		
			\$4099.50
		Total	\$6473.89
Expenses			
Club Meetings		214.21	
Fossil Fair		838.29	
Miscellaneous (Xeroxing, Supplies, etc.)		179.63	
Printing (Janus, Membership List, etc.)		580.41	
Stamps and Postage		372.74	
I-Shirts		623.70	
Books ("Fossil Vertebrates")		350.00	
Membership Reimbursements		15.00	
Scholarship Fund		500.00	
Brochures for Aurora Fossil Museum		800.00	
Bank Service Charges		116.39	
Telephone		11.20	
		Total	\$4601.87
Balance on Hand	December 31, 1993		\$1872.32
MEMBERSHIP REPORT - End of Year			
Membership as of December 31, 1992	231 listings		
	316 individual members		
Membership as of December 31, 1993	240 listings		
	323 individual members		
Trish Kohler			
Treasurer/Membership			

Cretaceous Park

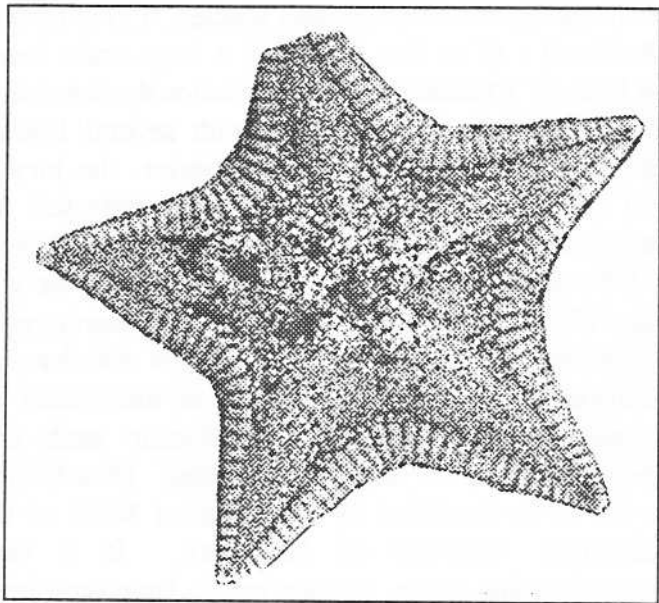
Keith Sturgeon

Ask just about anyone in our club the following question: "What is your favorite fossil site that the club visits?" Chances are, the answer will be Texasgulf. Ask me that question though, and you're bound to be shocked by the answer. I guess I'm just like the other 300 or so members of our group in that few things make me happier, (fossil-wise) than to find one of those monster shark teeth found at Aurora (a feat that I have yet to accomplish). But the simple fact is that my favorite site of them all is good ole Rocky Point. As soon as you catch your breath, I'll tell you why. Last year, while scouring that now giant pile of Cretaceous sandy material (known as the Rocky Point Member of the Peedee Formation) for Cretaceous echinoids, I tripped over a small agglomeration of *Ostrea subspatulata*. While lying on my back, wondering if it was worth getting up at all, I looked over to my side and saw a little starfish! Excited, I jumped up and slid down almost into the water (this was in December so I doubt that it would have been a particularly pleasant experience). After fighting my way back up the hill, I managed to immediately locate the little asteroid that had caused my plight. Renewed, I once again scoured the hill for more. Although I found about 45 more *H. mortonis*, (bringing the total to more than 200) no more stars showed up. Several weeks later I returned to find that the pile had increased in size to its present state of immensity. I figured that since fossil asteroids are generally not that common (with a few notable European exceptions), my chance of actually finding another were at this point (no pun intended) astronomical. Well, to make a potentially long story short, I managed to find 4 more that day!!! A few months later I had scheduled a trip to the Smithsonian to bring Clayton Ray a partial walrus skull that had been dredged from the Oregon Inlet. On a whim I brought the stars with me - just to see if anyone had any idea what they might be. The echinoid people were quite impressed and equally stumped! They gave me the name of a fossil asteroid specialist at the University of Illinois, Dr. Daniel Blake. The subsequent reply from Dan was that yes, indeed, these were an undescribed genus and species. Subsequently, Dan and I have put together a publication describing and designating the new

genus *Aldebarania* (named for the star Aldebaran that would have shown over the Cretaceous sea) and species *areniteia* (for the arenitic, i.e., sandy, facies of the Rocky Point member of the Peedee formation) bound for the *Journal of Paleontology*. As a direct result of the work involved in puzzling out the exact geological setting for this site during the Cretaceous, I started to do work in another eastern North Carolina site that exposed quite a bit of Cretaceous material. Unfortunately, I have found no asteroids here (yet), but I have managed to find several very beautifully articulated Cretaceous crabs of the genus *Avitelmessus* and species(?) *grapsoideus* (Rathbun) - (9 so far, including a large male found by Richard Chandler which he graciously donated to the collection). These, along with several Eocene carapaces (also potentially new species- the jury is still out) from the same site, have attracted the attention of Dr. Rodney Feldman (the jury) who will be visiting in March to see this site, and we will hopefully soon begin work on a few manuscripts describing these crabs as well. This site has, in addition to the crabs, produced an abundance of mosasaur, ichthyosaur, and plesiosaur teeth and bone, as well a third *Hardouinia* (*Hardouinia aequoria* as identified by Dr. Richard Mooi of the California Academy of Sciences). It is very interesting that these, like the crabs, have only been previously reported from Mississippi and Alabama. Two other types of echinoids await identification (so far, Dr. Mooi is stumped). Other fossils: many specimens of the ammonite *Sphenodiscus lobatus*, rare Cretaceous nautiloids, beautiful Cretaceous sawfish teeth that occasionally, at least in my opinion, rival the quality of the shark teeth in Aurora (a few of you saw the tooth I brought to the September meeting that is now in the hands of Richard Chandler - a trade for an equally beautiful Eocene crab carapace), a wide variety of very nice Cretaceous shark teeth, and a huge assortment of Cretaceous bivalve mollusks. Through these two sites, and many other smaller and less accessible sites throughout eastern North and South Carolina, I am currently attempting to compile as complete a collection as possible of Cretaceous flora and fauna from the Carolinas (with special emphasis on the Peedee and Black Creek Formations). My obsession with the Cretaceous of our Coastal Plain has pretty much taken over my home and has threatened to move me out of my office at work. Hopefully by

next year I will finally have a presentation worthy of the fossil fair - we'll see....

P.S. If anyone happens to turn up a Cretaceous starfish from Rocky Point in any state of preservation or completion PLEASE contact me at work at the Duke University Marine Laboratory (919) 728-2111 or call me collect at my home (919) 728-6717. With your permission, Dan Blake and I would love to get a look at any further specimens that turn up or at least be notified of their existence! THANKS!



Aldebarania areniteia

Shark Dentistry – Revisited

In *Janus* 1993#2 I discussed using *Elmer's Professional Wood Filler* for repair of broken shark teeth. The major problem with using this product for shark dentistry is that it comes as a prepared paste and mixing the acrylic color with it resulted in a material that was almost too liquid to retain its shape. Dave Grabda of the Grand Strand Fossil Club suggested the use of *Durham's Rock Hard Water Putty* and I must admit it is clearly superior for the purposes at hand:

- ✦ It is a lot cheaper. I paid \$1.49 + tax for a one pound can of material.
- ✦ It comes in powder form, to be mixed with water (and acrylic paints).
- ✦ It has a much shorter working time, hardening in about one hour.

- ✦ Roughly sanded, it has a much more realistic root-like surface texture.
- ✦ When fully dry it is very hard so that finely sanded it more closely approximates the smooth enamel surface of tooth crowns.

After carefully matching colors of tooth and repair, Dave gives the whole crown a polished coating of paste wax to approximate its normal shiny finish and depth of color.

Don't start with your best tooth; develop your techniques on teeth where partial success doesn't matter. Roots are easy. Crowns are the real challenge, particularly those with serrated edges; a very fine, three-cornered file is probably the best tool for those. Shape with a sharp knife (I use a small triangular Xacto knife) before the material gets too hard. Mix color with the dry material to approximate the color of root or crown then, after shaping and sanding touch up the color if necessary. Realize that both roots and crowns of natural teeth are almost never uniformly colored. Extend natural streaks, blotches, etc., to conceal the repair.

Using his techniques, Dave very graciously repaired two of my greatest *C. auriculatis* "Heartbreak Hotel" finds: a 3"+ giant with about an inch broken off its tip and a medium sized lateral tooth with very widely separated, spectacular cusps, again with a broken tip. While careful examination reveals both to be repaired, to an arms-length, casual look they both can pass for the find of the year, if not of a lifetime.

Book News

- ✦ John Timmerman and I have collaborated on a booklet of eastern North Carolina fossils from the Miocene and Pliocene (with a little Pleistocene thrown in for good measure) Epochs. The last page here contains an approximation of the cover. We anticipate that it will be approximately 50 pages and will contain over 200 illustrations of common and scarce fossils, primarily from Texasgulf. We hope to have it available in time for the Texasgulf trip (March 12). It will cost \$5.00 if purchased in person (on trips, at club meetings, etc.) and \$6.00 if mail ordered from Joy Pierce, 4309 Abbey Place, Durham, NC 27707
- ✦ *The Collector's Guide to Fossil Sharks and Rays from the Cretaceous of Texas* by Bruce J.

Welton and Roger F. Farish is 204 pages of lively text and numerous excellent black and white photographs. \$27.20 (including shipping) from Before Time, #5 Remington Drive, Lewisville, TX 75067

- ★ *Pliocene Molluscs from the Yorktown and Chowan River Formations in Virginia* by Lyle D. Campbell is available for \$12.50 from The Virginia Division of Mineral Resources, P.O. Box 3667, Charlottesville, VA 22903.

Professor Campbell is the father of David Campbell, the UNC graduate student we have supported financially. See *Janus* 1993#4.

- ★ *A Guide for Identifying Florida Fossil Shells and other Invertebrates*, 3rd Edition, by Lelia and William Brayfield (111 pages, 280 figures) may be obtained for \$10.00 from The Florida Paleontological Society, Inc., Florida Museum of Natural History, University of Florida, Gainesville, FL 32611.

Hemipristis sp. symphyseal tooth	1	Auk, synsacrum	1
Galeosagdo sp. vertebra	1	Auk, sternae	2
Carcharhiniform, rostrum	1	Auk, partial femur	1
Ragda sp. pectoral spine	1	Auk, partial tibiotarsus	1
Pomatomus sp. frontal	1	Auk, partial tarsometatarsus	1
Acanthocybium sp. anterior portion of dentary	1	Auk, tarsometatarsus	1
Bony fish, skull fragments	2	Cormorant, partial ulna	2
Bony fish, parasphenoid	1	Cormorant, partial carpometacarpus	1
Bony fish, quadrate	1	Duck, scapula	1
Bony fish, maxilla	1	Duck, left humerus	1
Cheloniid, partial limb bones	12	Duck, partial humerus	1
Cheloniid, radii	2	Duck, partial ulnae	2
Cheloniid, vertebrae	3	Dovekie, partial humerus	1
Cheloniid, metapodial	1	Gannet, left coracoid	1
Cheloniid, peripherals	15	Gannet, partial humeri	2
Cheloniid, neurals	5	Gannet, partial ulnae	3
Cheloniid, partial costals	19	Gannet, partial carpometacarpus	2
Geochelone sp. peripheral	1	Gannet, sternum	1
Albatross, partial carpometacarpus	1	Gannet, partial tarsometatarsi	2
Albatross, partial tarsometatarsi	3	Loon, partial humerus	1
Albatross, partial tibiotarsi	2	Loon, partial radius	1
Auk, coracoids	8	Loon, partial ulna	1
Auk, scapula	1	Loon, partial tarsometatarsi	2
Auk, partial humeri	47	Gull, partial humerus	1
Auk, humerus	1	Shearwater, partial humeri	5
Auk, ulna	1	Shearwater, partial ulnae	3
Auk, partial ulnae	28	Bird, skull fragment	1
Auk, assoc'd ulna & distal right humerus	1	Bird, vertebrae	3
Auk, partial radius	1	Bird, scapula	1
Auk, furculum	1	Bird, partial radius	1

Department of Paleobiology



National Museum of Natural History, Smithsonian Institution
DEPARTMENT OF PALEONTOLOGY, 440C, 1111 12th ST., WASHINGTON, DC 20560, TEL. (202) 357-2211

February 2, 1994

Mr. & Mrs. Frank Hyne
88 Rustic Ridge
Greenville, North Carolina 27858

Dear Becky and Frank:

On behalf of the National Museum of Natural History of the Smithsonian Institution, I thank you for donating to the national collections the 404 fossil vertebrates from the Texas Gulf, Inc., Lee Creek Mine near Aurora, Beaufort County, North Carolina; these are being accessioned (accession no. 403016) as a gift from you. These specimens are most welcome additions to the Smithsonian's collections.

As usual your gift includes many important specimens, including several specimens of animals that are rarely found at Lee Creek. These rarer specimens are the distal portion of a humerus of the dovekie, *Alla* sp., a small member of the auk family; the complete phocine seal humerus, *Pliopoda strusca*; the partial exoccipital of a dugong, and the horse astragalus. Ralph Eshelman may be able to identify the last specimen to species.

Sincerely yours,

Bob
Robert W. Purdy,
Museum Specialist

Frank & Becky Hyne
Donations to the Smithsonian Institution
1993

Bird, partial carpometacarpus	2	G. sp., partial femur	1
Bird, synsacrum	1	G. sp., partial fibulae	3
Bird, partial femur	1	G. sp., astragalus	1
Bird, ungual phalanges	2	G. sp., partial calcaneum	1
Cetacean, humeri	29	G. sp., calcaneum	1
Cetacean, partial humerus	1	G. sp., partial metatarsals	8
Cetacean, ulnae	11	G. sp., assoc'd metatarsal, tarsal, and phalanx	1
Cetacean, radii	18	G. sp., partial phalanges	15
Cetacean, carpal	1	G. sp., phalanges	6
Cetacean, partial rib with tip of shark tooth in it	1	Phocine seal, partial radius	1
Mysticete, periotics	7	Phocine seal, partial femur	1
Callosophora sp., lower jaw	1	<i>Pliopoda strusca</i> , humerus	1
G. sp., canine	1	<i>Prosomachus</i> sp., partial calcaneum	1
G. sp., left premaxilla	1	Land carnivore, phalanx	1
G. sp., anterior portion of maxilla	1	Sea cow, partial exoccipital	1
G. sp., temporals	8	Horse, astragalus	1
G. sp., postcanine	1	Total No. of Specimens	404
G. sp., vertebrae	12		
G. sp., assoc'd humerus & vertebra	1		
G. sp., cervical vertebrae	12		
G. sp., thoracic vertebrae	2		
G. sp., lumbar vertebrae	3		
G. sp., caudal vertebra	2		
G. sp., humerus	1		
G. sp., partial humeri	2		
G. sp., partial radii	3		
G. sp., partial metacarpal	1		
C. sp., scapholunar	1		
G. sp., sternbra	1		
G. sp., partial innominate	1		

North Carolina Fossil Club, Inc.
(Founded 1977)

President	Sarah Milkovits	(919) 876-0650	Raleigh, NC
Program Chairman	Mike Hogan	(919) 942-2877	Chapel Hill, NC
Treasurer and Membership Chairman	Trish Kohler	(919) 383-6328	Durham, NC
Secretary	John Timmerman	(910) 452-0943	Wilmington, NC
Editor, <i>Janus</i>	Richard Chandler	(919) 851-2153	Raleigh, NC
Board	Thelma Bennett	(919) 249-1574	Arapahoe, NC
	Becky Hyne	(919) 752-3284	Greenville, NC
	Doug Meier	(919) 872-0529	Raleigh, NC
	Joe Milkovits, Jr.	(919) 876-0650	Raleigh, NC
	Joy Pierce	(919) 489-8149	Durham, NC
	Sam Schmidt	(919) 782-2428	Raleigh, NC
	Vince Schneider	(919) 779-9338	Garner, NC
	Richard Tellekamp	(910) 347-6361	Jacksonville, NC



1994 Membership Application - N. C. Fossil Club

NAME(S) _____

ADDRESS _____

CITY, STATE, ZIP _____

PHONE(S) (Include Area Code) _____

INDICATE TYPE(S) OF MEMBERSHIP(S) INDIVIDUAL (NEW) \$20.00 _____

INDIVIDUAL (RENEWAL) \$10.00 _____

SPOUSE (NEW OR RENEWAL) \$ 5.00 _____

SIGNATURE _____

DATE _____

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

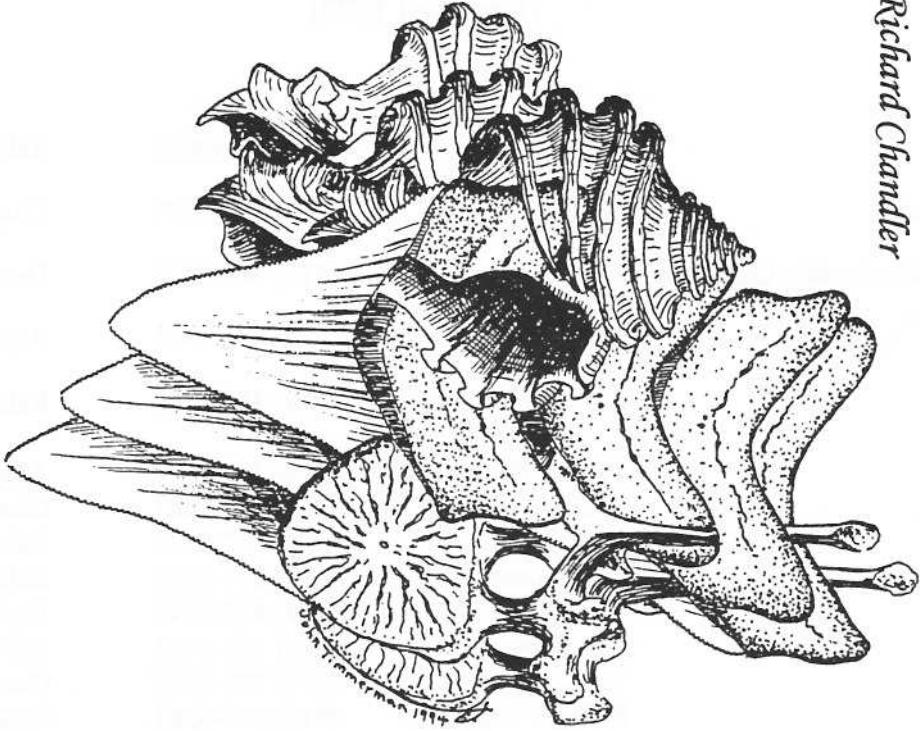
Memberships are effective from January through December of the year (or portion of the year) of the date of application. For example, persons joining in August will need to renew their membership 5 months later in January.

MAIL TO: NC FOSSIL CLUB, P.O. BOX 2777, DURHAM, NC 27705

Neogene Fossils of North Carolina A Field Guide

Illustrations: John Timmerman

Text: Richard Chandler



North Carolina Fossil Club
P. O. Box 2777
Durham, NC 27705