



JANUS

The Newsletter
of the
North Carolina
Fossil Club
www.ncfossilclub.org

2009 Number 2

2009 Summer Calendar

July

19 NCFC Meeting – NCMNS, 11 West Jones Street, Raleigh.
1:30 pm, Level A conference room. Mary Ann Hinman:
“Fossils of Central Australia”.

25-26 Dinosaur Trail Opening Weekend – Museum of Life
and Science, Durham. Exhibitors may set up beginning at
8:00. Museum open to public 9:00 - 5:00. Contact: Trish
Kohler (919) 383-6328 or trishk@nc.rr.com

September

12 Mini Fossil Fair – Rankin Museum, 131 W. Church St.,
Ellerbe, NC Contact: Ruffin Tucker (704) 784-1672 or
paleotck@netscape.net

20 NCFC Meeting – NCMNS, 11 West Jones Street, Raleigh.
1:30 pm, Level A conference room. Michael Hesemann:
“Introduction to the study of foraminifera”.

November

7 NCFC Annual Fossil Fair – Children’s Museum and
Science Center, 270 Gay St, Rocky Mount.

The Fall collecting calendar will be in the next issue of *Janus*.

Trish has asked for some more helpers for the Dinosaur Trail
Opening Event at the Museum of Life and Science in Durham,
scheduled for July 25-26. Contact her at (919) 383-6328 or
trishk@nc.rr.com.

Michael Hesemann, our speaker at the September meeting,
directs you to his web site: www.foraminifera.eu.

Thank You

To: Boulton, Mary; Kohler, Trish
Cc: Schneider, Vince
Sent: Tue, 2 Jun 2009 8:46 am
Subject: Thank you for your donation!

I want to thank the NC Fossil Club for your recent generous
donation to the library fund of the Friends of the Museum. I will
be able to subscribe to the journal *Paleobiology* for 2009, using
the monies you donated.

In these times of extremely tight budgets, your gift is especially
appreciated!

Thank you very much.

Janet Edgerton
Chief Librarian/Registrar
N.C. State Museum of Natural Sciences
Raleigh, NC 27601



**Peter James Harmatuk (July 7, 1920 - May 5, 2009)
and daughter Patricia at the Aurora Fossil Festival**

An Appreciation of Pete Harmatuk Clayton E. Ray

Peter James Harmatuk was one of the best human beings I
have ever known. The energy, effectiveness, and generosity of
his activities in the timber industry, community service, and
paleontology would have assured him a place of honor in any one
of these areas alone. I will concentrate here only on the last of
these. Pete’s death on May fifth caused me to review our nearly
40 years of close association and friendship, which brought home
more forcefully than ever the astonishing length and breadth of
his contributions to knowledge, to public education, to the fossil
collections of the National Museum of Natural History (NMNH),
Smithsonian Institution, and to my personal benefit—all with no
sign of self-interest.

Only after drafting a first attempt to do justice to Pete’s
memory did I go back to review the written record. That review
showed that I had mainly paraphrased what had been said at the
presentation of the Strimple Award in 1993. Thus, it seemed more
suitable to reprint that statement, which we have reproduced
here, from the *Journal of Paleontology*, by permission of the
Paleontological Society, with a few notes appended to bring the
record up to date.

PRESENTATION OF THE HARRELL L. STRIMPLE AWARD
OF THE PALEONTOLOGICAL SOCIETY
TO PETER J. HARMATUK
CLAYTON E. RAY

Department of Paleobiology, National Museum of Natural
History, Smithsonian Institution, Washington, D.C. 20560

Mr. President, members of The Paleontological Society,
my most urgent priority here today is to apologize to Pete for
what I am about to do. This is not the first time that I will have
embarrassed him in public, and I hope it will not be the last.
Pete is one of those rare individuals who does for others so
unobtrusively and naturally that it takes awhile for you to realize
that, just as unobtrusively, he makes it almost impossible for you

to do anything for him. My job today is to redress that imbalance just a little, so, Pete, you'll just have to endure it.

Having said that, I now hope that you will let me be Frank, Frank C. Whitmore, Jr., that is. Frank led the effort from the beginning to demonstrate to the Society that Pete should receive the Strimple Award. Unfortunately, Frank could not be here today. Thus, it is my proud and humble privilege to represent Frank and the host of professional paleontologists who have benefitted from Pete's skill, sustained effort, and generosity. Frank prepared a statement for us, which time will not permit my reading here, but which will be appended to the written testimonial to appear in the *Journal of Paleontology*.

I first met Pete in December 1963, only days after I joined the Smithsonian, when he and his children visited Frank Whitmore. Pete had already been collecting fossils for a few years as a result of a curiosity aroused by a fossil shark tooth brought home by one of his sons. At that time, Pete's children were growing up with fossil collecting. In fact, among Pete's amateur collecting circles it was widely known that there was no use going over a site after he had unleashed "Pete's Beagles" on it. This is a good juncture at which to recognize Pete's family, his wife Mary, whose hospitality in Bridgeton, N.C., and fresh baked pecan rolls are legendary; daughter Pat and husband Bill Baker; his oldest son Jim; Chris, the only one not with us today; and Bill and his wife Donna—all have participated in and supported Pete's paleontological exploits.

It was not, however, until August 1971 that our intensive and continuing relationship began. Frank, Bob Purdy, and I were taken to the Harmatuk's home in Bridgeton by Jack McLellan, then of Texas Gulf, Inc. There, in the Harmatuk's back yard, porch, shed, garage, and pantry, we reveled in the riches accumulated by Pete and family, not only from Texas Gulf's Lee Creek Phosphate Mine on the Pamlico River, near Aurora, N.C., but also from river banks and bottoms, quarries and borrow pits throughout eastern North Carolina. The rest as they say is history, as we began a continuing series of scores of "field" trips, mostly to "collect" at Pete's home and the homes of numerous other amateur collectors to whom Pete introduced us. Our trips have been interspersed with return visits from Pete to Washington to deliver pick-up-truck loads of fossiliferous matrix from inaccessible localities or large blocks containing whale parts or in one case a complete carapace of a large land tortoise. Between these trips we have received care packages in a steady stream. A fairly typical letter of acknowledgement (27 December 1979) from our collection manager Bob Purdy, reads in part "Dear Pete: I have just finished inventorying the large collection of fossil vertebrates and invertebrates (over 15,000 specimens) which you generously donated..." This is symptomatic of the fact that Pete has to his credit more catalogued specimens of vertebrate fossils in the USNM than any other collector, living or dead, staff or not.

Largely through his influence we embarked in 1972 on a multifaceted long-term study of the geology and paleontology of the Lee Creek Mine, resulting thus far in two volumes of collected papers (Ray, 1983, 1987) and various shorter papers (Olson, 1990; Olson and Steadman, 1978). His fame will continue justifiably to grow as more and more is published on his collections—most notably the vertebrate volume or volumes on Lee Creek now in preparation. When published, it will transform the vertebrate fauna of the Yorktown Formation from virtual terra incognita to perhaps the most speciose vertebrate paleofauna in the world, in large part through Pete's collecting prowess.

Pete has collected all groups of vertebrates occurring at the Mine, ranging from large blocks containing major parts of big whales down to thousands of hand-picked otoliths of bony fishes (Fitch and Lavenberg, 1983). Among the highlights, and Pete's personal favorites, are hundreds of beautifully preserved teeth

of the giant shark *Carcharodon megalodon*, donation of which enabled us to reconstruct a composite dentition now on display at the National Museum of Natural History (figure herein; Anonymous, 1986; Park, 1985; Smithsonian Year, 1985). These teeth are so attractive to collectors that they cause the ranks of amateur clubs to swell as a means of gaining access to the Lee Creek Mine, and they are in such demand commercially that Pete's home in Bridgeton was robbed of many on the very day that he and family participated with us in a nearby widely advertised "fossil fair" for amateurs. Persistent rumors circulate that at least one Texas Gulf employee financed his children's college education through sale of these and other shark teeth. Another sells fossils to tour groups outside the gate as they leave the Mine. Not only has Pete never yielded to this constant temptation, but no strings of any kind have ever been placed on any donation. Many amateur collectors trade fossils widely. Pete has done that once, when he parted with some of his beloved shark teeth as the only means of getting for us a mammalian specimen that we regarded as individually more significant. All of us who work extensively with avid collectors have experienced the all too frequent need for attention and adulation. More than two decades of intensive interaction have proven that anytime I hear from Pete, it is going to benefit me, fellow researchers, and paleontology.

Pete has exploited many sites other than the Lee Creek Mine. Among his major discoveries are two rich faunas of nonmarine Pleistocene vertebrates, now under study by Ralph Eshelman. These are the best ever for North Carolina, and will go far toward filling a gap in knowledge of eastern Pleistocene faunal distribution.

He has also rediscovered and returned from virtual oblivion a classic Pleistocene fauna on the lower Neuse River, the Lucas Benners Plantation, the object of great interest in the 1830's to Thomas Nuttall, Timothy Conrad, Charles Lyell, and others (Ray and Sanders, 1984). It was there on an early visit with Pete that I learned to my surprise that Pete could not in fact walk on water, when we parked near shore and reluctantly followed Pete, who never missed a step, out into the river up to our waists. Actually, most of Pete's collecting there has been done over a period of many years opportunistically whenever he would sense the right brief combination of wind strength and direction and low tide to expose the river bottom, whereupon he would leap into his truck, day or night, summer or winter, and race downstream. None of us pros has ever had the good luck to be there at the right moment—small wonder that we had no collections since the 1830's.

Here and elsewhere Pete's good works are not limited to his own collecting, but are enhanced through example and friendship to influence others to show and donate their fossils. Prominent instances in addition to the Benners Plantation that come to mind include Cretaceous plant remains from the Neuse River Cut-off at Goldsboro (Hueber and Watson, 1988) and the fossil carnivore, *Trigonictis* (Ray et al., 1981). Also in this vein, Pete was a co-founder (with E. A. Womble and Vince and Judy Schneider) in 1977 of the North Carolina Fossil Club, a growing, successful organization that has benefitted research collections and offers student financial aid.

As suggested above, Pete's contributions are by no means limited to vertebrates. For plants, besides the Neuse River Cretaceous, he has collected fossil wood and resinites from Lee Creek (Hueber, 1983; Hueber, personal commun., appended). Among the invertebrates, notable contributions include sponges studied by Bob Finks; brachiopods (Cooper, 1988); nautiloids (Bailey, 1976; Furnish and Glenister, 1987); and echinoids (Kier, 1980, 1983).

I cannot begin to do Pete justice without trying to give you some insight into his vitality, versatility, and personality. Pete

has true humility. He is unquestionably too deferential to vested authority—he still insists on calling me Dr. Ray after all our years of close personal friendship. Yet his intellectual curiosity will not permit him to accept glib answers that do not satisfy. One of my most pleasurable experiences with Pete started with an isolated tooth from a quarry near Comfort, North Carolina. I brushed it aside on our first visit to Pete, as a possible peccary tooth as I recall. Pete kept coming back to this subject and kept collecting at the quarry until he finally pieced together the major part of a jaw and other skeletal parts of the best Eocene sea cow material from North America, which led ultimately to a review of the subject (Domning et al., 1982). He just could not leave it or me alone until I got it right.

Yet, Pete is always ready to suppose that the other person is smarter or better qualified than he is, for example to be mayor of Bridgeton. He is the one, however, who saw the needs and forced himself against all inclination to step forward to improve the town. He was for many years the leading fire fighter in Bridgeton; more than once he had to leave us with his fossils when the alarm sounded. Most of his work life was spent in the timber industry starting in 1942, where he introduced the chain saw to North Carolina, and from which he retired early (in 1975) as manager of a profitable veneer mill for Georgia Pacific—retired because it interfered with his fossil hunting. But even that was not sufficient for his energies, so he became a beekeeper, with more than 300 hives at its peak, some of which have wintered with Druid Wilson in Frostproof, Florida. Lastly, and at times most important to me among Pete's skills, he is a world-class fish fryer and whole-hog barbecuer.

Given the opportunity in another life, Pete's initiative and intellect could have made him a leading researcher. Playing the hand that was dealt him, he has turned those qualities to the benefit of other researchers and to posterity. As I have said previously (Ray, 1983), "I would regard his acquaintance as one of life's rare pleasures had he never collected a fossil." So here's to you Pete, for all you've done and continue to do.

STATEMENT OF FRANK C. WHITMORE, JR.

For those who have collected there, the Lee Creek Mine is the experience of a lifetime. You could call it the Kimberley of vertebrate fossils—like that diamond mine, a vast matrix that, with sufficient drudgery, yielded treasures almost without number. This cornucopia of spoil piles attracted, over the years, many paleontologists of different persuasions, and Pete Harmatuk was the nucleus around which we revolved. From each of us he learned what fossils or fragments thereof we craved. He went with us to the mine, and after we left he kept going back and finding the fossils that we needed.

Pete has lasting power in body as well as in mind. One day we had taken a string of fourteen fin-whale vertebrae out of the working face of the mine, encased them in a block that weighed several hundred pounds, and had to get it to the ground surface, 75 feet up. We hitched a nylon line to the block, ran it up the cliff, and tied it to the back bumper of the carry-all. The block lifted nicely, but we forgot that nylon line stretches. When the block topped the slope it was propelled through the air as by a slingshot and caught Pete full in the chest. We got the block off Pete, and he struggled to his feet, said he thought he'd better go home and lie down, and drove away. In about two hours he returned, with a cane and limping slightly, and continued collecting for the rest of the day.

Pete's generosity and hospitality extend to all serious workers. Pete's generosity and his all-embracing interest in the Lee Creek fauna brought the Lee Creek workers together in a valuable and enjoyable enterprise. We are grateful to him and to his wife Mary who, though not a fossil fan, understood and respected what we were up to.

STATEMENT OF FRANCIS M. HUEBER

Peter Harmatuk has been responsible for innumerable additions of valuable specimens to the paleobotanical research collections in the National Museum of Natural History. The additions comprise Upper Cretaceous amber with insect inclusions, woods and leaves of coniferous genera, and woods, flowers, and leaves of angiosperm families from the Neuse River Cut-off in North Carolina, as well as Mio-Pliocene fossil woods and resinites from the Lee Creek Phosphate Mine, also in North Carolina.

To the present, portions of the collections have served as subjects for four scientific papers in paleobotany and are of continued interest to the research staff of the Museum as well as to visiting research paleobotanists, including Francis M. Hueber, Scott L. Wing, Joan Watson, and Else Marie Friis. Laboratory preparations of much of the collections will most certainly reveal even more material for description and publication.

Publications Based in Whole or Significant Part on the Work of Peter J. Harmatuk

- ANONYMOUS. 1986. Shark's jaws open. *Geotimes*, 31(1):25.
- BAILEY, R. H. 1976. *Eutrephoceras* (Nautiloidea) from the Paleocene Beaufort Formation of North Carolina. *Tulane Studies in Geology and Paleontology*, 12(4):235-242.
- COOPER, G. A. 1988. Some Tertiary brachiopods of the east coast of the United States. *Smithsonian Contributions to Paleobiology*, 64:1-45.
- DOMNING, D. P., G. S. MORGAN, AND C. E. RAY. 1982. North American Eocene sea cows (Mammalia: Sirenia). *Smithsonian Contributions to Paleobiology*, 52:1-69.
- FITCH, J. E., AND R. J. LAVENBERG. 1983. Teleost fish otoliths from Lee Creek Mine, Aurora, North Carolina (Yorktown Formation: Pliocene). *Smithsonian Contributions to Paleobiology*, 53:509-529.
- FURNISH, W. M., AND B. F. GLENISTER. 1987. Miocene cephalopods from North Carolina. *Smithsonian Contributions to Paleobiology*, 61:9-11.
- HUEBER, F. M. 1983. Fossil woods and resin-like substances from the Lee Creek Mine. *Smithsonian Contributions to Paleobiology*, 53:269-285.
- , AND J. WATSON. 1988. The unusual Upper Cretaceous conifer *Androvettia* from eastern U.S.A. *Botanical Journal of the Linnean Society*, 98:117-133.
- KIER, P. M. 1980. The echinoids of the Middle Eocene Warley Hill Formation, Santee Limestone, and Castle Hayne Limestone of North and South Carolina. *Smithsonian Contributions to Paleobiology*, 39: 1-102.
- . 1983. Upper Cenozoic echinoids from the Lee Creek Mine. *Smithsonian Contributions to Paleobiology*, 53:499-507.
- OISON, S. L. 1990. Stomach contents of the extinct Alcidae genus *Australca* sp., p. 196-198. *In* A. J. Boucot, *Evolutionary Paleobiology of Behavior and Coevolution*. Elsevier, Amsterdam.
- , AND D. W. STEADMAN. 1978. The fossil record of the Glareolidae and Haematopodidae (Ayes: Charadriiformes). *Proceedings of the Biological Society of Washington*, 91(4):972-981.
- PARK, E. 1985. Around the mall and beyond. *Smithsonian*, 16(9):22, 24.
- RAY, C. E. (Ed.). 1983. *Geology and paleontology of the Lee Creek Mine, North Carolina, I*. *Smithsonian Contributions to Paleobiology*, 53:1-529.
- (Ed.). 1987. *Geology and paleontology of the Lee Creek Mine,*

North Carolina, II. Smithsonian Contributions to Paleobiology, 61: 1-283.

—, E. ANDERSON, AND S. D. WEBB. 1981. The Blancan carnivore *Trigonictis* (Mammalia: Mustelidae) in the eastern United States. *Brimleyana*, 5:1-36.

—, AND A. E. SANDERS. 1984. Pleistocene tapirs in the eastern United States. *Carnegie Museum of Natural History Special Publication*, 8:283-315.

SMITHSONIAN YEAR, 1984. 1985. Annual Report of the Smithsonian Institution for the year ended September 30, 1984:91-93.

**RESPONSE BY PETER J. HARMATUK
For the Harrell L. Strimple Award
26 October 1993**

Good afternoon Ladies and Gentlemen. I would like to express my appreciation and thanks to everyone who made this event possible. I would personally like to thank Dr. Whitmore, Dr. Ray, Dr. Kier, Mr. Bohaska, Mr. and Mrs. Schneider, and others for nominating me for this great Award.

I, too, am proud to be an Amateur. My interest began some 30 plus years ago when my sons ages 7 and 9 came home with about three or four teeth. I had never seen one before, but became interested in finding out how they got here. We were told they were fossil teeth. We started hunting for more—and along with these shark teeth we found other teeth and bones. We were “hooked” forever!

We felt we had to salvage these fossils so that someday someone would identify them. We branched out to collecting fossils in rivers, creeks, and all the mines and pits we could find. Our collection kept piling up. We often wondered if anyone would ever come by to look at them. After about six years collecting we got in touch with the Smithsonian. Dr. Whitmore invited us to come up to the Smithsonian that Christmas eve in 1963 to look over our finds.

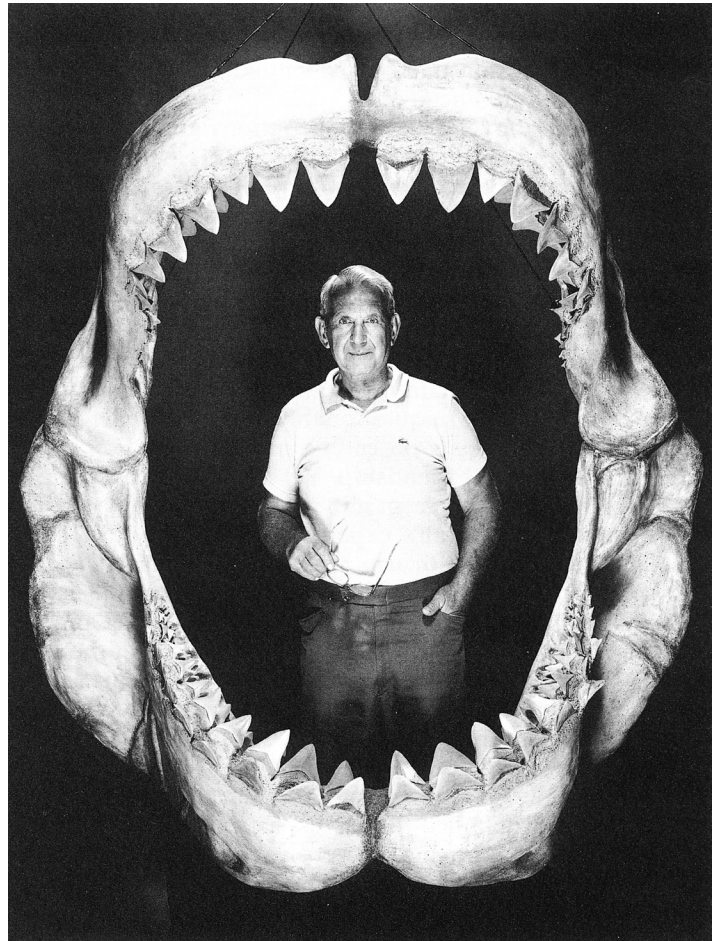
About this time, Texas Gulf started their operation and eventually Dr. Ray and his crew came by our house to see what we had. We had some seal and walrus fossils, which were his main interest. This started our association with the Smithsonian. We would go on their fossil trips to Texas Gulf, and continued collecting and donating our fossils to them.

Texas Gulf at this time let me come into their mines and hunt whenever I could. Other people wanted to come in to collect with us. It became a problem. I asked the company if we organized a fossil club, could others get permission to come in and hunt. They agreed. With the help of Mr. Ed Womble, we went to Raleigh and organized the North Carolina Fossil Club. The North Carolina Fossil Club has grown so much, that now they have had to limit the club membership.

We also organized the Fossil Fair, where collectors would bring their fossils for the experts from the Smithsonian to identify. Sometimes the collectors would donate their finds to the Smithsonian. Other clubs in other areas organized and copied our fairs. One other project that I helped with, along with the Smithsonian and Dr. Ray and Texas Gulf, was the starting of the Aurora Museum with Lee Creek Fossils.

I have had many years of wonderful association with the staff of the Smithsonian. They were helpful in many ways. Again I thank all who have made this day possible for me. A special thanks to the late Harrell L. Strimple for initiating this honor for amateurs. Last but not least, I thank my wife for putting up with all the dirty clothes and dirt I brought into the house and also the lost companionship over the years. She has just reminded me that she even let me store fossils under the bed.

Thanks again to everyone who made this day possible. Thank you!



**Peter J. Harmatuk
Harrell L. Strimple Award 1993**

Addendum

Events subsequent to 1993 only serve to reinforce manifold the justification for Pete’s recognition. For example, a review by McDonald et al., 1996, of Pleistocene caribou, has shown yet again Pete’s beneficial influence on other collectors to whom he introduced us. Second, a recent survey of knowledge of fossil whales (Uhen and Pyenson, 2007) has explicitly cited Pete Harmatuk in demonstrating the overriding influence of the collecting activity of one vigorous and able individual. Third, the breadth of his contributions is reflected in a publication on fossil crabs by Smithsonian scientists (Blow and Manning, 1996). They named the type species of a new genus, *Santeecarcinus harmatuki*, stating: “This species is named for Peter J. Harmatuk, in appreciation of his tireless efforts to enrich the collections of the NMNH.”

Most important to documenting Pete’s incomparable record is publication of the third and fourth volumes, completing the Smithsonian’s Lee Creek project (Ray and Bohaska, 2001, and Ray et al., 2008). These volumes, devoted to the vertebrates, rest primarily on Pete’s specimens. One has only to leaf through their pages and contemplate the meager product that would have resulted (if at all) without Pete’s contributions. Two items that deserve highlighting are the picture of Pete and friends framed in the giant shark jaws on page 136 of the 2001 publication, and the naming of the cetacean, *Lagenorhynchus harmatuki*, on page 218 of the 2008 volume. It is at least some small comfort to me that Pete lived to see this record of his accomplishments in print, in spite of my procrastination, best measured in terms of geologic time.

Trish Kohler's Photos from the Aurora Fossil Festival

Rather than mourn Pete's death, I prefer to concentrate on what he did with his allotted time, and on how lucky we are to have known him. The contrast between his robust physical presence and productivity and his self-effacing shyness combined to create his uniquely appealing character. His passing marks the end of the heroic era in the paleontology of the Coastal Plain of North Carolina. Succeeding generations of the North Carolina Fossil Club are fortunate to be able to claim as their own a founding member of such genius and generosity as Pete Harmatuk, who more than any other individual gave them the legacy not only of their founding, but also the Aurora Fossil Museum, and the continuing success of their fossil fairs. Truly, we will never see his like again, but we would all do well to emulate him to the best of our ability.

More Publications Based in Significant Part on the Work of Peter J. Harmatuk

BLOW, W. C., and R. B. MANNING. 1996. Preliminary descriptions of 25 new decapod crustaceans from the Middle Eocene of the Carolinas, U.S.A. *Tulane Studies in Geology and Paleontology*, 29(1):1-26.

MCDONALD, J. H., C. E. RAY, and F. GRADY. 1996. Pleistocene caribou (*Rangifer tarandus*) in the eastern United States: New records and range extensions, p. 406-430. In K. M. Stewart and K. L. Seymour (Eds.), *Palaeoecology and Palaeoenvironments of late Cenozoic Mammals: Tributes to the career of C. S. (Rufus) Churcher*. University of Toronto Press, Toronto, Canada.

RAY, C. E., and D. J. BOHASKA (Eds.). 2001. *Geology and Paleontology of the Lee Creek Mine, North Carolina, III*. Smithsonian Contributions to Paleobiology, 90:i-iv, 1-365.

RAY, C. E., D. J. BOHASKA, I. A. KORETSKY, L. W. WARD, and L. G. BARNES (Eds.). 2008. *Geology and Paleontology of the Lee Creek Mine, North Carolina, IV*. Virginia Museum of Natural History, Special Publication, 14:i-x, 1-517.

UHEN, M. D. and N. D. PYENSON. 2007. Diversity estimates, biases, and historiographic effects: Resolving cetacean diversity in the Tertiary. *Palaeontologia Electronica*, 10(2):1-22.

Editor's Comments

When I heard of Pete's death I was concerned as to whom I could ask to write a memorial column for *Janus*. A couple of weeks later, when I returned from a fossil collecting trip to Old Dock with Don Clements, Suzanne told me I had gotten a call from Clayton Ray. Puzzled as to why I should have gotten a call from him, I returned it and, to my great surprise, Clayton implored me to let him write a remembrance of Pete for *Janus*. I was ecstatic to comply.

The Harrell L. Strimple Award is given each year by the Paleontological Society to recognize "outstanding achievement in paleontology by amateurs (someone who does not make a living full-time from paleontology). Contributions may be an outstanding record of research and publication, making outstanding collections, safeguarding unique paleontological materials through public service, teaching activities in the area of paleontology, and collaborations with others working in paleontology."

In addition to Pete's award in 1993, another member of the North Carolina Fossil Club, LeGrand Smith, received the award in 1998 for his work (primarily) on Bolivian trilobites.

Photo of Pete and his daughter Patricia by Trish Kohler.

Thanks to the Paleontological Society for permission to reprint the Strimple presentation.



Part of Trish Kohler's LARGE marine mammal exhibit



Sharron and Ron Edwards behind an impressive array of mostly Richlands fossils



Joanne Dubrock explains a fine point to John Everette (or vice versa).

Virginia Museum of Natural History Trips

Join VMNH staff on scientific expeditions. Fees are used to support VMNH research. Space is limited. To learn about upcoming expeditions or to make a reservation, please e-mail fieldtrips@vmnh.virginia.gov or call 276-634-4171.

July 11: Pamunkey River Boat Trip (Limit 16)

VMNH Members, \$103.50; Non-Members, \$115

We are staying at Westmoreland State Park July 10. We leave the park at 8:00 a.m., caravan to the Pamunkey (about 1 hour) and boat the river until 4:30 p.m. We will collect from the Nanjemoy (L. Eocene—50 my), Piney Point (M. Eocene—45 my), Old Church (U. Oligocene—25 my), Calvert (18-14 my), and Eastover (8-7 my) Formations. We will collect shells, bone, teeth, etc. We return to Westmoreland State Park and on Sunday (July 12) we will explore the shoreline at Stratford Hall by boat or by foot. We leave Stratford Hall at 1:30 p.m.

July 12: Stratford Hall/Westmoreland

VMNH Members, \$31.50; Non-Members, \$35

Children under 12, \$22.50; Non-Members, \$25

Stratford Hall \$5/ea grounds fee which can be applied to dining at the Stratford Hall Dining Room or Gift Shop
9 a.m.-3 p.m.

Take a trip along the spectacular cliffs of the Potomac River, in an area rich in paleontology, ecology, and history. The 140-foot high cliffs expose sediment ranging for 3.5 million to 14 million years old, and have produced fossils of whales, seals, crocodiles, sharks, and numerous seashells. Take time to explore the scenic beauty at Westmoreland State Park and the historic structures and museum at Stratford Hall. Accommodations and park fees not included. There is a campground at Westmoreland State Park, and hotels are available in Montross and Colonial Beach. Bring your own lunch, a trowel, plastic gags, and a bucket. Dress to wade and get dirty. Access is moderate, with some walking required, and getting wet is likely. No restrooms.

Aug 14-15: Westmoreland/Upper Potomac Boat Trip (Limit 16)

VMNH Members, \$90; Non-Members, \$100

We are staying at Westmoreland State Park August 14. We leave the park at 8:00 a.m. on August 15, caravan to the Upper Potomac and boat the river until 4:30 p.m. We will collect from the Aquia (60 my) and Nanjemoy (L. Eocene—50 my) Formations. We will collect shells, bone, teeth, etc. We return to Westmoreland State Park at 5:00 p.m.

August 16: Stratford Hall

VMNH Members, \$31.50; Non-Members, \$35

Children under 12, \$22.50; Non-Members, \$25

Stratford Hall \$5/ea grounds fee which can be applied to dining at the Stratford Hall Restaurant or Gift Shop

We meet the park at 8:00 a.m., convoy to Stratford Hall, and boat the Stratford Hall Cliffs until 2:00 p.m. We will collect shells, bone, teeth, etc. from the Calvert, Choptank, St. Marys, and Eastover Formations.

Sept. 11-12: Stratford Hall/Westmoreland Boat Trip (Limit 16)

VMNH Members, \$75, Non-Members, \$85

Stratford Hall \$5/ea grounds fee which can be applied to dining at the Stratford Hall Dining Room or Gift Shop

8:00-4:00 p.m. on September 12

Take a trip along the spectacular cliffs of the Potomac River, in an area rich in paleontology, ecology, and history. The 140-foot high cliffs expose sediment ranging for 3.5 million to 14 million years old, and have produced fossils of whales, seals, crocodiles, sharks, and numerous seashells. Take time to explore the scenic beauty at Westmoreland State Park and the historic structures and museum at Stratford Hall. Accommodations and park fees not included. There is a campground at Westmoreland State Park, and hotels are available in Montross and Colonial Beach. Bring your own lunch, a trowel, plastic gags, and a bucket. Dress to wade and get dirty. Access is moderate, with some walking required, and getting wet is likely. No restrooms.

Sept. 13: Stratford Hall/Westmoreland

VMNH Members, \$31.50; Non-Members, \$35

Children under 12, \$22.50; Non-Members, \$25

Stratford Hall \$5/ea grounds fee which can be applied to dining at the Stratford Hall Dining Room or Gift Shop
9 a.m.-3 p.m.

We meet the park at 8:00 a.m., convoy to Stratford Hall, and boat the Stratford Hall Cliffs until 2:00 p.m. We will collect shells, bone, teeth, etc. from the Calvert, Choptank, St. Marys, and Eastover Formations.

October 3: Calvert County Cliffs and Bay Boat Trip (Limit 16)

(depending on weather conditions)

VMNH Members, \$90; Non-Members, \$100

We will be staying at the Holiday Inn Express in Prince Frederick. On October 3 (Saturday), we will launch boats at Chesapeake Beach at 9:00 a.m. and collect the beaches and cliffs of the famous Calvert Cliffs for about 15 miles. We will collect the Calvert (17 my) and Choptank (12 my) Formations for shells, bone, teeth, etc. We return to Chesapeake Beach at 4:30 p.m. In case of windy weather we will move to the Patuxent River.

October 10: Lower James Boat Trip (Limit 16)

VMNH Members, \$90; Non-Members, \$100

We meet at the Jamestown Yacht Club at 8:30 a.m., and boat the James River on the Surry County side for about 15 miles. We will collect from massive outcrops of marine formations containing millions of shells, barnacles, corals, bone, teeth, etc. of Miocene and Pliocene Age. We stay at the Hampton Inn-Chester.

October 11: Lieutenant Run

VMNH Members, \$22.50; Non-Members, \$25

Children under 12, \$18; Non-Members, \$20

We meet at the Hampton Inn (Chester) at 8:30 a.m. drive to Petersburg and Lieutenant Run. We will collect from Miocene and Pliocene beds (7-3.5 mya). The fossils, mostly shells, but some bone and teeth, are excellently preserved, extremely prolific, and exhibit several hundred species many of which named from that locality. We will collect until noon

More Shark Than Usual – Whales Too! Joy Herrington

When a rock was split in a California building site, the machine operator was amazed to see teeth falling out and rocks holding more of the animal that came to be identified as a fossilized shark.

The rock formation that held the fossil shark was the Altimira Shale Member of the Monterey Formation commonly called Palos Verdes Stone or P.V. Stone from the upper part of the Middle Miocene Epoch. All of us owe the construction contractor Jim Madden a thank you for saving all that could be recovered because the discovery gives us information that we as fossil collectors in spoil pile collecting never see. The large rocks he recovered reveal teeth, evidence of soft tissue, and many vertebrae.

On a recent trip to California, I had the opportunity to see the fossil of this shark – now impressively displayed at the Point Vicente Interpretive Center at Ranchos Palos Verdes. In the old days, this shark would be identified as a Mako Shark, *Isurus hastalis*, which is what the sign shows now despite the swirl of discussion about the genus and species of the creature which some now label *Cosmopolitodus hastalis* (summarized in elasmocom).

There are many teeth. The teeth are a light honey color like those we collect at Aurora NC. My estimate of the height of a prominently displayed tooth is about 2 inches counting the root.

The vertebrae were impressive! I counted 51 vertebrae still with the specimen and stood mesmerized by their size. The larger vertebrae were about 3½” in diameter.

At Lee Creek, we find teeth from this same genus and species (whatever we decide to label it) that are at least a third larger. Would the vertebrae also be a third larger? We seldom find Lamnid – type vertebrae this size but when we do, would we assign it to this species and genus?

The specimen is incomplete as the photograph shows. Joe Cōcke prepared the specimen for display and estimated the total length of the animal at more than 18 feet. His calculations were based on a formula of enamel height (5 cm) x 3.63.

Volunteer docents who work at the Point Vicente Interpretive Center point out other exciting and distinctive features of this fossil - an imprint of the dorsal fin and other soft tissue. Those aspects were hard to see in the dimmed light of the simulated cave in which the fossil was displayed but look carefully to see the imprint in the photographs supplied through Diana McIntyre, Curator/Docent Coordinator of the Point Vicente Interpretive Center with the help of Betty Riedman and Yvetta Williams who took the photographs and Richard Chandler who improved them by computer. We are very appreciative to them all for their help and to Joe Cōcke whom I met at the Center and who supplied written information about the shark. Joe is developing a publication describing the Palos Verdes Stone and was packing his truck with materials for a talk to a local school when we crossed paths. Joe has been a member of the North Carolina Fossil Club in the past. Diana said she had been trying to find *Seal/Dolphin, A Skeletal Comparison of Two Marine Mammals*, written by John Timmerman and distributed by the North Carolina Fossil Club through orders that come to me. How strange can life be?

About the Center and Whale Watching

The Palos Verdes Interpretive Center is located adjacent to the Point Vicente lighthouse in a beautifully groomed park with walking trails and picnic areas. The Center reopened in 2006 after extensive renovation and houses handsome displays of natural and cultural history of the Palos Verdes Peninsula, which is south of Los Angeles.

A tall metal sculpture outside the entrance flags the location as



Photo: Betty Riedman

important to the gray whale, *Eschrichtius robustus*. The facility patio located on a steep bluff overlooking the Pacific Ocean with Catalina Island in view is busy every day from December through May with trained docents who volunteer to conduct the annual census of the baleen whale as it travels south and returns on the migratory route to icy waters.

The docents are generous with educational instruction and with their huge binoculars to give passer-bys a chance to see the giants for themselves. Three grays had been observed before we arrived but none came through while I was there. I did see a seal on rocks that seals often come to and the docent pointed out *Tursiops* dolphins, both regular visitors.

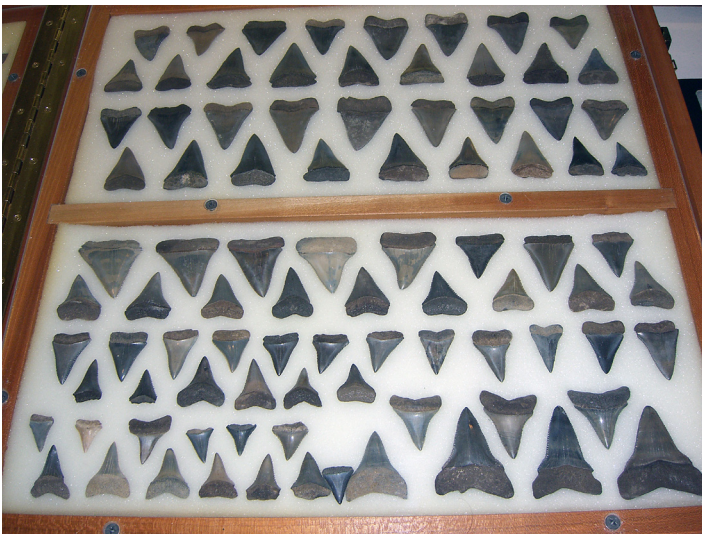
Reports are made daily to the American Cetacean Society and according to the internet, the count of gray whales at Point Vicente to date (mid March) totals 299 southbound and 390 northbound. When I asked about changing conditions, the docent noted that cows with calves are now being spotted on the southbound journey. There have been 18 so far this season. No cows with calves have been sighted headed back north yet. Perhaps the water along the migratory route is warmer now which accounts for births occurring before the whales reach the usual birthing waters.

At the risk of sounding like a travel ad, you really should put this site on your list if you have time in the Los Angeles area. You can see the La Brea Tar Pits downtown LA but when you get out to Palos Verdes, a location so protective of their breath-taking scenery that street lights and traffic lights are banned, you can enjoy aspects of this hobby we share as you also tour the Wayfarer's Chapel, a glass church designed by Frank Lloyd Wright and situated on a high bluff overlooking the Pacific ocean or tootle by Donald Trump's Golf Club nearby. The Point Vicente Interpretive Center invites us to come.



Photo: Yvetta Williams

More of Trish's Photos from the Aurora Fossil Festival



Bobby Tant's impressive array of Green's Mill Run *Carcharodon carcharias* teeth.



A small part of Roxada and Robert Story's petrified wood exhibit..



Ruffin Tucker and Tony Furr: Ruffin seems happy; Tony looks tired (5 hours on the road?).

Publications Available

Neogene Fossils of North Carolina, A Field Guide
Richard Chandler and John Timmerman

42 pages. Miocene and Pliocene marine, Pleistocene surface deposits.

(23 Million years ago to recent.)

\$7.00 includes postage. Inquire about bulk order price (10+ copies).

Cretaceous and Paleogene Fossils of North Carolina, A Field Guide. John Timmerman and Richard Chandler

70 pages. Cretaceous, Paleocene, Eocene, Oligocene marine and land deposits

(85 Million years ago to 23 Million years ago)

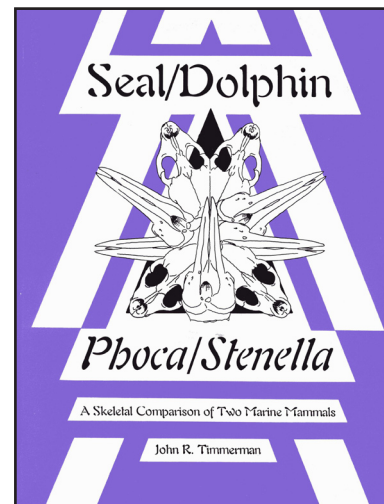
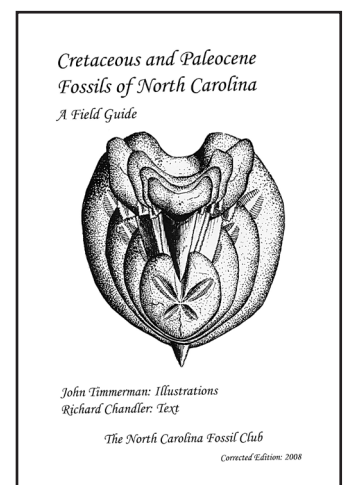
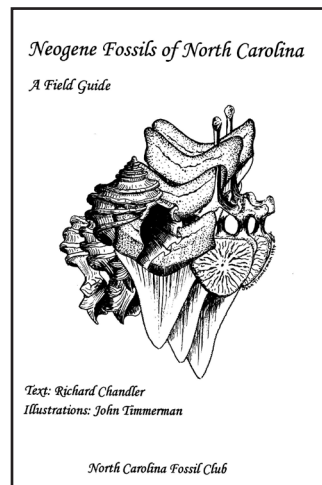
\$7.00 includes postage. Inquire about bulk order price (10+ copies).

Seal/Dolphin, A Skeletal Comparison of Two Marine Mammals
John R. Timmerman

77 pages. Each bone of modern animals (Spotted Dolphin to represent dolphin/porpoise and the Harbor Seal to represent seals) is illustrated to help fossil collectors sort the rarer seal fossils from the more common whale fossils and to assist in the identification of fossils of both animals.

\$13.00 includes postage. Inquire about bulk order price (5+ copies).

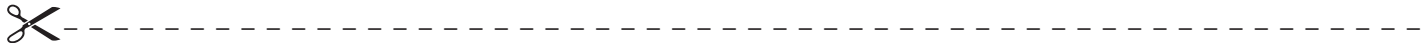
Mail Order: Send checks payable to the North Carolina Fossil Club along with your order to the North Carolina Fossil Club, PO Box 13075, Research Triangle Park, NC 27709.



NORTH CAROLINA FOSSIL CLUB, INC.

(Founded 1977)

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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.

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.

NCFC Liability Statement

The Undersigned hereby acknowledges his/her understanding that fossil collecting is an inherently dangerous activity which can result in serious bodily injury or death, and/or property damage and hereby confirms his/her voluntary assumption of the risk of such injury, death or damage.

The Undersigned, in return for the privilege of attending field trips Related to the collection of and/or study of fossils, or any other event or activity conducted or hosted by the North Carolina Fossil Club (NCFC), hereinafter collectively and individually referred to as "NCFC Events", hereby releases the NCFC, NCFC Board members and officers, NCFC Event leaders or organizers and hosts, landowners and mine or quarry operators from any and all liability claims resulting from injury to or death of the undersigned or his/her minor children or damage to his/her property resulting from any cause whatsoever related to participation in NCFC Events.

The Undersigned agrees to comply with any and all rules and restrictions which may be communicated to the undersigned by the NCFC Event leader and/or landowner and mine or quarry operator and acknowledges that failure to comply will result in immediate expulsion from the premises.

The Undersigned acknowledges that this release covers all NCFC Events and will remain in effect at all times unless or until it is revoked by written notice to the current President of the NCFC and receipt of such revocation is acknowledged.

The Undersigned further attests to his/her intent to be legally bound by affixing his /her signature to this release.

Name _____ Signature _____ Date _____

Name _____ Signature _____ Date _____

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

North Carolina Fossil Club
P.O. Box 13075
Research Triangle Park, NC 27709

Deinonychus antirrhopus made sure everything was on the 'straight and narrow' at the Aurora Fossil Festival last May. It was brought by Judy and Vince Schneider and Sam Schwadt, representing the North Carolina Museum of Natural Sciences.

