Fossil Club of Lee County

April 2006

Message From The President

Hello!! Another month gone by already!! I hope you have taken advantage of the low water levels in the rivers and have done some serious fossil hunting. A few of our members are leaving soon for the trip to the Lee Creek Mine in Aurora, North Carolina. They will not make this month's meeting as they will be traveling for the bones!!

Due to my father's illness and subsequent passing on, I was in North Alabama a good portion of the month, so I did not fossil hunt much. I would like to see some show and tell items from those of you who did hunt and also those of you who attended the Venice Shark Tooth festival. Bring in your finds and acquisitions. We all learn from seeing your collections. Elections will be held this month. The new term will start in May. We have a full slate of officers and directors and usually the executive board is elected by acclimation, but if someone wants to run for an office we can have a regular election at this month's meeting. The officers are President--- Louis Stieffel, Vice President---Al Govin, Secretary--- Charles "Chuck" Ferber, Treasurer--- Ray "Money Bags" Seguin. Directors --- Michael Orchin, Leslie Stieffel, and Sandy Schwartz.

This month's speaker will be Steve Wilson, past president of the SW fossil club. He is a fireman, and hopefully will not be called upon to be out fighting a fire during the meeting!!! If that happens, I will try and fill in with a little fossil talk. The speaker in May will be Terry Sellari, past president of the Tampa Bay fossil club and a full time fossil dealer.

A river canoe trip is scheduled for May 21. The club will pay the cost of the canoes. This is a thank you to the club for the financial support over the last year. We, as the executive board, felt that since the money is in the treasury, the club should have the use of it. If you cannot make the canoe trip, well, we tried!!! We do have other ideas in mind for the future.
This month we will have a small continuation of last month's auction. A few nice items were late in arriving for last month, so we will auction them this month.

Please keep a look out for e-mail notices throughout the month. We are trying to take advantage of this medium to keep members aware of last minute trips and changes. For those of you old fossils that will not "do computers" we will try and notify you as best as we can. Upcoming items of interest are; our web site, an Orange River trip, Peace River trips and more, so keep looking!!

This is your club---jump in there and volunteer whenever you can. You truly get more out of this club the more you put into it. See you at the meeting!!
Louis Stieffel

The Fossil Club would like to express their sympathy to Louis and Leslie for the loss of Louis' father and wish them well.

April Meeting

Our April Meeting will be held on Thursday April 20th at 7:00 p.m. at the Calusa Nature Center, located at Ortiz and Colonial Blvd. in Ft. Myers. Our speaker will be **Steve Wilson**. Steve has been fossil hunting in the Southwest Florida area for 23 years, collecting vertebrate and invertebrate material. He is a field collector for Gainesville Museum and has worked in close association with them. He has also done work for the Smithsonian in Washington DC and field work with Florida Geological Survey.

Over the years he has had the privilege of finding several new species to add to the Florida Fossil record including both invertebrate and vertebrate material and is still active in all field activities.

Coming Events

April 22 and 23 The Tampa Bay Fossil Club is holding their annual family adventure on the Peace River. This is the only time each year when the Tampa Bay Club invites non-members to participate. The river is at its shallowest point in April so the collecting will be easy, not to mention the water will be much warmer. This is a wonderful trip and a great opportunity to meet new fossil friends. We (Lundberg Family) went on this trip last year and did very well. They meet at the Peace River Camp ground in Arcadia. (There is a fee for the use of the Campground) There are two groups, one for screenwashers and snorklers and the other for scuba divers. There is also a side trip to Zolfo Springs on Sunday the 23rd with Fred Hendershot. This is a fantastic spot accessible only through the Tampa Bay Fossil Club. We found our best finds here last year among them a mammoth tooth, sand dollars, gator teeth and scutes, glyptodont scutes, deer and bird leg bones, and lots of great shark teeth.

For more information on times and locations call Fred Hendershot at (813) 672-3337. He is the trip coordinator. Hope to see you there.
Sue Lundberg

May 21st Club river trip planned. Canoes will be provided. More information will be provided at a later time.

Minutes of Meeting of the Fossil Club of Lee County

A meeting of the membership of the Lee County Paleontological Society was held at the time, date, and place stated below.

Date of Meeting: March 16th, 2006
Meeting Time: 7:00 p.m.
Meeting Place: Caloosa Nature Center
Number in attendance: 65
Louis Stieffel presiding.

Our annual auction was held. An announcement was made that nominations for officers would be made next month.

Secretary

Officers

Louis Stieffel, President: (239) 458-9818
E-mail Cape187@earthlink.net
Ray Seguin: Treasurer 939-1921/936-5019
Chuck Ferber, Secretary: 541-9424
Jerry Graham: (941) 423-0803
John Reilly, Vice President: 482-7787

Committees

Website: Curtis Klug
Fossil Show: Michael Orchin and Louis

$1. Raffle: Jerry and Loretta Graham
Auction: Louis Stieffel
Publicity: Carl Fricke

Report on our Annual Auction

We had many guests attend our annual auction which was held last month. We had record sales of $1,999. We will add the proceeds from additional items that will be auctioned this month so we will top $2,000. Thanks to everyone that contributed.

Refreshments

April 20th Sandy Schwartz
May 18th Mary Southall
June 15th volunteer needed
July 20th volunteer needed

Missing link crawls out of muck

Newly found species fills evolutionary gap between fish and land animals From Harvard University Gazette

By Steve Bradt

Paleontologists have discovered fossils of a species that provides the missing evolutionary link between fish and the first animals that walked out of water onto land about 375 million years ago. The newly found species, *Tiktaalik roseae*, has a skull, a neck, ribs, and parts of the limbs that are similar to four-legged animals known as tetrapods, as well as fishlike features such as a primitive jaw, fins, and scales.

These fossils, found on Ellesmere Island in Arctic Canada, are the most compelling examples yet of an animal that was at the cusp of the fish-tetrapod transition. The new find is described by scientists at Harvard University, the University of Chicago, and the Academy of Natural Sciences in Philadelphia in two related research articles highlighted on the cover of the April 6 issue of Nature.

"This previously unknown, extinct animal represents the beginning of the emergence of fish onto land, and the evolutionary transformation of fins into limbs," says Farish A. Jenkins Jr., Alexander Agassiz Professor of Zoology at Harvard and curator of mammalogy and vertebrate paleontology at Harvard's Museum of Comparative Zoology. "The skeletal material is three-dimensional and exquisitely preserved; most material this old tends to be flattened or otherwise distorted. The geometry of the limb joints clearly indicates that segments of the fin could move independently. The 'shoulder' and 'elbow' could flex, and the 'wrist' could extend, converting the fin into postures appropriate to support the body from below and propel the animal on land."

"*Tiktaalik* blurs the boundary between fish and land-living animal both in terms of of its anatomy and its way of life," says Neil Shubin, professor and chairman of organismal biology at the University of Chicago. *Tiktaalik* was a predator with sharp teeth, a crocodilelike head, and a flattened body. The well-preserved skeletal material from several specimens, ranging from 4 to 9 feet long, enabled the researchers to study the mosaic pattern of evolutionary change in different parts of the skeleton as fish evolved into land animals.

"Human comprehension of the history of life on Earth is taking a major leap forward," says H. Richard Lane, director of sedimentary geology and paleobiology at the National Science Foundation. "These exciting discoveries are providing fossil 'Rosetta Stones' for a

deeper understanding of this evolutionary milestone - fish to land-roaming tetrapods."

One of the most important aspects of this discovery is the illumination of the fin-to-limb transition. In a second paper in the journal, the scientists describe in depth how the pectoral fin of the fish serves as the origin of the tetrapod limb.

Embedded in the fin of *Tiktaalik* are bones that compare to the upper arm, forearm, and primitive parts of the hand of land-living animals

"Most of the major joints of the fin are functional in this fish," Shubin says. "The shoulder, elbow, and even parts of the wrist are already there and working in ways similar to the earliest land-living animals."

At the time that *Tiktaalik* lived, what is now the Canadian Arctic region was part of a landmass that straddled the equator. It had a subtropical climate, much like the Amazon basin today. The species lived in the small streams of this delta system. According to Shubin, the ecological setting in which these animals evolved provided an environment conducive to the transition to life on land.

"We knew that the rocks on Ellesmere Island offered a glimpse into the right time period and the right ancient environments to provide the potential for finding fossils documenting this important evolutionary transition," says Ted Daeschler of the Academy of Natural Sciences in Philadelphia. "Finding the fossils within this remote, rugged terrain, however, required a lot of time and effort."

The nature of the deposits where the fossils were found and the skeletal structure of *Tiktaalik* suggests that the animal lived in shallow water and perhaps even out of the water for short periods.

"Out of water, these fish encountered gravitational forces very different from the relative buoyancy they enjoyed in an aquatic setting," Jenkins says. "Restructuring of the body to withstand these forces is evident in the ribs, which are plate-like and overlap like shingles, forming a rigid supporting mechanism for the trunk."

Jenkins adds: "Fish feeding in water readily orient the mouth toward food by deftly maneuvering the entire body; the head is rigidly attached to the trunk by bones linking the skull and shoulder girdle, and thus fish have no 'neck.' The challenge of whole-body maneuvers on land was met by freeing the skull from its bony connections to the trunk, thus developing a true neck, which in turn allows the head to move independently of the body."

The new fossils were collected as a result of four summers of exploration in Canada's Nunavut Territory, less than 900 miles from the North Pole, by paleontologists from Harvard, the Academy of Natural Sciences, and the University of Chicago. Although the team has amassed a diverse assemblage of fossil fish, Shubin said, the discovery of these transitional fossils in 2004 was a vindication of the team's persistence.

The scientists asked the Nunavut people to propose a formal scientific name for the new species. The Elders Council of Nunavut, the Inuit Qaujimajatuqangit, suggested "*Tiktaalik*" (tic-TAH-lick) - the word in the Inuktitut language for "a large, shallow-water fish."
The scientists worked through the Department of Culture, Language, Elders and Youth in Nunavut to collaborate with the local Inuit communities. All fossils are the property of the people of Nunavut and will be returned to

Canada after they are studied.

The team depended on the maps of the Geological Survey of Canada. The researchers received permits from the Department of Culture, Language, Elders and Youth of the Government of Nunavut, and logistical support in the form of helicopters and bush planes from the Polar Continental Shelf Project of Natural Resources Canada. The National Science Foundation, the National Geographic Society, and the Putnam Expeditionary Fund of Harvard University, along with an anonymous donor, also helped fund the project.

Several pictures are available at the web site address which follows; http://www.news.harvard.edu/gazette/2006/04.06/09-missinglink.html

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