



FOSSIL CLUB OF LEE COUNTY

SEPTEMBER 2012



Message from the President

Greetings to All,

We were spared by the wrath of Hurricane Issac except for heavy rain, which significantly raised the already high water levels of our Peace River. For all of our friends who are still up north, our advice is to stay put for awhile. We don't anticipate going to the rivers to hunt for fossils until mid-Fall. As an alternative, one of our members recommends that you sort through your collections and try to identify those bones and teeth that you put aside for further study.

The next big fossil event is the Fossil Fair sponsored by the Orlando Fossil Club. Its in early October (13th and 14th) and then of course comes our Annual Fossil Show. Our Show will be held on December 1st at the Calusa Nature Center in Ft. Myers.

One of our members, Bill Howat, has found two tiger shark teeth in the Peace River that he has identified as Galeocerdo Mayumbensis. There is virtually no information in our Florida fossil books about this species. He has an article with photos in this newsletter. Perhaps you have a Mayumbensis tooth in your collection of tiger shark teeth.

Thank you!

A special thanks to all of you who contribute articles for the newsletter. Keep up the good work! Also a special thanks to Donna Johnson for preparing the Fossil Show flyer for 2012. We also want to thank Mark Renz, our local author of fossil books, who has already signed up for our Fossil Show 2012.

Our program for the September meeting includes our speaker, Dr. Brian Andres, a professor from Florida State University, our Show and Tell segment, which is getting bigger and better with lots of participation, our monthly raffle with lots of super interesting items, club merchandise for sale, refreshments, and some time to chat with people who just like fossils.

I look forward to seeing everyone at our September 20th meeting at the Iona House.

Best regards, Bill

Next Meeting

FCOLC next meeting is on Thursday September 20th at the Iona House, Calusa Nature Center. Meeting starts at 7 PM.

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Bill Shaver, Speakers
Louis Stieffel, Auctioneer
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Pam Plummer, Membership
Joshua Frank, Refreshments
Dean Hart, Refreshments co-chairman
Gunther Lobish, Pit Trips
Michael Siciliano, Raffle and Dive Trips
Coby Pawlowski, Youth Activities Director
Hollie Tiner, Club Photographer
Gunther Lobish, Invertebrate Education
Louis Stieffel, Vertebrate Education

SPEAKER FOR SEPTEMBER

Dr. Brian Andres

The title of his talk is

"Pterosaur Trees or: How I learned to stop worrying and love the cladogram"

Bio: Dr. Brian Andres is the first vertebrate paleontologist at the University of South Florida, where he has been teaching paleontology and geology courses for the past nine months after receiving his PhD from Yale University. He is the world's expert on pterodactyl evolutionary relationships, naming three species new to science and traveling to 60 museums over the globe in the course of his studies. When not in the classroom or the lab, you will find him in the field where he has dug up fossils in Texas (home state), Arizona, New Mexico, Utah, Virginia, South Dakota, and China.

Synopsis: Perhaps one of most esoteric and obtuse aspects of paleontology in recent years is its fascination with evolutionary trees. Dr. Andres will explore the lighter side of these branching diagrams by discussing how they improve our understanding of the pterodactyls. Pterodactyls represent a worst case scenario for the problems found in the fossil record for some people, but knowledge of their evolutionary relationships can assuage these problems and tell us how they lived and evolved.

MINUTES OF AUGUST MEETING THE FOSSIL CLUB OF LEE COUNTY

Date: August 16th, 2012
Place: Calusa Nature, Calusa Nature Center
Attendance: 26
Presided by: Bill Shaver, Club President

Bill opened the meeting and stated that there were several items on the raffle table. He thanked everyone for participating.

The speaker was Ian Bartozek who talked about fossil turtles and tortoises.

Gunther Lobish provided the refreshments.

Everyone gave Ray Seguin a round of applause for providing door prizes for the past several years. Ray is a wood-turner and makes some unique items that he donates to the club.

Mary Rawl from the Calusa Nature Center invited club members to sign up to monitor young people for Scouting Merit Badges.

Show and Tell was done by Coby Pawlowski, Curt Klug, Zack Dayo, Gunther Lobish, Bill Shaver, Jack Boyce, Louis Stieffel, and Linda Warner.

Club trips were discussed and some are planned for September and November.

Sandy Schwartz was thanked for handling the raffle table.

Minutes submitted by: Kathy Pawlowski,
Club Secretary

SCHEDULE OF EVENTS & SPEAKERS

September 20th	Speaker Dr. Brian Andres, USF Professor
September 29th	Club Trip to Clewiston Museum
October 13th-14th	Fossil Fair in Orlando
November 10th	Mosaic Mine Club Trip
December 1st	FCOLC Annual Fossil Show

VOLUNTEERS FOR REFRESHMENTS

The schedule for 2012 is as follows:

September	Anne and Emily Mcilrot
October	Mark Cantos
November	Marcia and Charles Simons
December	Pat and David Rosenquist (beverages only) for Holiday Dinner Meeting

Many thanks to all of you . . .
your support is truly appreciated.

Websites & Locations of Interest

Fossil Club of Lee County: www.fcolc.com

Museum of Natural History @ Gainesville
www.flmnh.ufl.edu/

Florida Vertebrate Fossil Permit <http://flmnh.ufl.edu/natsci/vertpaleo/vppermit.htm>

Southwest Florida Fossil Club
www.southwestfloridafossilclub.com

Orlando Fossil Club
www.floridafossilhunters.com

PEACE RIVER Water Levels
www.canoeoutpost.com

Mark Renz's Fossil Expeditions
www.fossilx@earthlink.net

Smithsonian Natural History Museum
www.mnh.si.edu

Florida Fossil Clubs
www.fossil-treasures-of-florida.com

Cape Coral Friends of Wildlife Burrowing Owls
www.ccfriendsofwildlife.org

Calusa Nature Center and Planetarium 3450 Ortiz Av, Fort Myers Tel 239-275-3435
www.calusanature.com

Imaginarium 2000 Cranford Ave, Fort Myers
www.i-sci.org

Southwest Florida Museum of History
2031 Jackson St., Fort Myers
www.MUSEUMofHISTORY.org

The Bailey-Matthews Shell Museum, 3075 Sanibel-Captiva Rd, Sanibel, FL www.shellmuseum.org

Randell Research Center PO Box 608, Pineland, FL
www.flmnh.ufl.edu/RRC/

Cracker Museum at Pioneer Park in Zolfo Springs, FL Tel 863.735.0119

Lost in Time, 4719 69th Street, N. St Petersburg, FL 33709, Tel. 727-541-2567 Owner Brian Evensen

Tampa Bay Fossil Club
www.tampabayfossilclub.com

Picking Up Isolated Native American Artifacts
<http://dhr.dos.state.fl.us/archaeology/underwater/finds>

ANOTHER TIGER SHARK SPECIES

(*Galeocerdo Mayumbensis*)



There is no information or mention of this species of Tiger Shark in any of the fossil books citing Florida fossils. Yet, I have found and photographed the two teeth included with this article. After discussing the teeth with some fossil hunting friend, we concluded that it is an extinct species dating from the Miocene. I made an inquiry on the Fossil Forum and learned that another tooth of this species was found in the Myyaka River and another at a land site in the Venice area. I found my two in the Peace River.

I spoke with Bill Shaver, Club President about the lack of information on this species. He contacted Dr. Gordon Hubbell, a reknown expert on shark teeth, and sent him my photos. (Dr. Hubbell has the worlds largest collection of fossil shark teeth. In fact, museums from all over the world ask to borrow some of his collection for their

temporary exhibits.)

Dr. Hubbell wrote back and he said that the photos are definitely *Galeocerdo Mayumbensis*. He is quoted as follows: "This species is a fairly rare find, although they seem to be more common in some locations. It is frustrating that books that describe the fossil sharks of Florida do not include this species. The latest volume of Handbook of Paleichthyology, Volume 3E authored by Henri Cappetta does mention them, but say little else about this species. In fact, it says they are found in West Africe, but does not even mention Florida. I am glad to articles being written about *G. Mayumbensis* as we need to get the word out".

If anyone sorts through their collection of tiger shark teeth let me know if you find some *G. Mayumbensis*! By: Bill Howat



ANCIENT FOREST LIES 10 MILES OFF THE ALABAMA COAST

By Ben Raines, Press-Register - Submitted by Mary Rawl

Sixty feet beneath the green waves of the Gulf of Mexico, ten miles from the nearest land, stands an ancient forest of giant trees.

Covered in dense carpets of sea anemones, crawling with spidery arrow crabs and toadfish, the sprawling stumps of massive cypress trees spread across the seafloor.

Unmistakable to eyes that have seen the cypress growing today in the swamps of the Gulf Coast, the trunks bear the jagged, craggy outline that is the hall-mark of the species. Away from each stump lies another clue, a telltale ring of cypress knees, the knobby wood outgrowths believed to help the trees survive in the soupy mud of the south's river deltas.

The trees run along a small drop off along the Gulf's bottom south of the Fort Morgan peninsula. For hundreds of yards, the stumps follow the lazy meanders of what appears to be an ancient river channel that runs to the north, toward the modern day Mobile-Tensaw Delta, which drains Alabama and portions of Tennessee, Georgia and Mississippi.

Drifting along the river channel, floating over the edge of a sunken forest rendered in the blues and greens of the deep sea is enchanting.

The way the story goes, a fisherman happened onto the drop off shortly after Hurricane Katrina and started catching red snapper along it. After a few successful trips, he asked a scuba diving buddy to take a look and tell him what was on the bottom. The diver came up and reported seeing dozens of tree stumps in every direction.

It is believed the forest was uncovered by the towering waves generated by Hurricane Katrina. Big hurricanes can move sand around at depths of 100 feet or more. It is possible the next big storm could cover the entire forest up again. The location is a closely guarded secret. Only a small handful of people know where the forest lies, and few of them are willing to disclose the GPS coordinates needed to anchor a boat above it.

The Press-Register visited the forest twice in August, surveying two different sections.

Alabama's Underwater Forest Ten miles out to sea, 60 feet under the Gulf of Mexico, lies an ancient forest of cypress trees. The trees are believed to be 12,000 years old, and were once part of the Mobile-Tensaw Delta.

The stumps along the edge of the old river channel are the most exposed, in some cases rising as much as five feet off the bottom, usually beginning with a

tangle of roots and ending in a stump about five feet in diameter. Looking down on a stump from above, dozens of fish can be seen swimming among the roots. Fallen trees are also visible, logs too large to wrap arms around lying here and there on the bottom.

Fish typically associated with natural and artificial reefs in the northern Gulf swim above and around the stumps in dense clouds. Hi hats sporting black and silver stripes and distinctively tall dorsal fins school together along with beaugregories, ruby red lips, grouper and various snapper species. Soapfish nestle in the nooks and crannies of the stumps.

Moving east, away from the edge of the river channel, more stumps dot the seafloor, but seldom rise more than a few inches above the surrounding sand. Swarming with sea life, even the low stumps are large, often several feet in diameter. The outer layer of wood is soft and easily broken with bare hands.

Nick Tew, a geologist with the Geological Survey of Alabama, said that the stumps had likely been preserved for millenia by virtue of being buried beneath a few feet of sand, which prevented oxygen from reaching them. The same phenomenon is responsible for bones and remnants preserved in peat bogs and other oxygen-deprived locations.

"It certainly makes sense that these were preserved under anaerobic conditions and, unfortunately, now that they are exposed, they will deteriorate," Tew said. "How neat to find those stumps exposed out there!"

Based on historic sea level depths, Mimi Fearn, head of the Earth Sciences Department at the University of South Alabama, said the forest was likely 10,000 to 12,000 years old. Research conducted for a scientific paper titled "Sea-level history of the Gulf of Mexico since the Last Glacial Maximum" suggests a slightly broader range of 8,000 to 14,000 years old, due to the confounding influence of sediments from the Mississippi River.

"If you look back, current stands of sea level weren't reached until 4,000 years ago. Before that, your absolute low stands would have been during the last glacial maximum about 18,000 years ago. After that, you have a gradual rise over the next period of time," Fearn said, discussing the geologic history of coastal Alabama.

"We know its pretty old. We have some stumps on the Fort Morgan peninsula, on the Gulf beach side. We had those dated and they are about 2,000 years old. Those are exposed on the beach today."

Cypress trees cannot live along salty coastal beaches. The trees exist only in brackish or freshwa-

AN EARLY BIRD

by Jack Boyce

ter swamps and cannot tolerate high levels of salt. The presence of the 2,000 year old stumps on today's Gulf beach means that area was once part of the swampy Mobile-Tensaw Delta.

Likewise, the far more ancient stumps 10 miles offshore also required a freshwater swamp to live in.

"What you found will represent an old shoreline. Its really fascinating," Fearn said. Scientists have done some work reconstructing the ancient shorelines, she said, based on sediment cores and depth measurements taken offshore.

"It shows the Mobile River extending much farther out, much like what we have in the delta today, just much farther offshore. Imagine that delta being there offshore if you dropped sea level down. Same vegetation we have in the Delta today. We're not talking so old that trees would have changed. It would look much like it looks today, a big swamp."

When the Gulf was at its shallowest, 18,000 years ago, the river delta would have been even farther offshore, Fearn said. The Gulf would have been about 120 feet shallower than it is today. That means the shoreline would have been between 20 and 30 miles offshore of the present day shoreline.

"During the sea level low associated with continental glaciation, what is now our shallow marine shelf was exposed and characterized by terrestrial environments, such as rivers and swamps," Tew said. "Most evidence of this is usually covered with sand, but the old river channels and associated features can be seen on some geophysical profiles that have been collected across the area."

Tew and Fearn said it was a rare treat to uncover a relic forest deep beneath the ocean. Both suggested that radiocarbon dating of wood samples could provide a more precise date for the age of the trees, and yield new clues about the history of the Gulf and its river deltas.

"The contours of the Gulf of Mexico have changed considerably since the last glacial period," Fearn said. "I think it is really exciting to see something like this. It's fun to imagine what it would have been like."

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This is the time of year when a fossil hunter can become stir crazy. In Southwest Florida we have tremendous opportunities to find fossils, but not so much during the rainy season and this year the rain has been heavy. The water depth at Zolfo Springs has dropped from 15 to 11 feet over the last week. Fossil club trips have been few and far between, but there is one scheduled to Clewiston in late September. What to do... what to do?

One fossil activity is to classify odd fossils found in the previous season. Back in on January 29th, I was finding a few Megs, a Ray dermal denticle, a worn horse tooth, and an oddly shaped hollow bone. It was not exactly the same but reminded me of a raptor toe bone found in 2010 and the subject of a previous Newsletter article. This one is hollow but I have found a number of hollow fossil bones in the Peace River and just hollowness does not always mean an avian bone. I think about bringing this bone to the September club meeting and ask Louis to identify.

My other path is to post a photo on <http://www.thefossilforum.com> and request identification. This works! "It is the distal end of a tarsometatarsus, definitively avian. It is in scale for that of a Sandhill Crane, and though a bit roughed up, what is there is structurally consistent too." It is a fossil bird foot bone, the one which connects to the toes/claws. It is also relatively rare to find any fossil birds bones. This is just one more example of the value of The Fossil Forum to a fossil enthusiast.

*The Sandhill Crane has one of the longest fossil histories of any bird still found today. A 10-million-year-old crane fossil from Nebraska is often cited as being of this species, but this is more likely from a prehistoric relative or the direct ancestor of the Sandhill Crane. The oldest unequivocal Sandhill Crane fossil is "just" 2.5 million years old, over one and a half times older than the earliest remains of most living species of birds, which are primarily found from after the Pliocene/Pleistocene boundary some 1.8 million years ago. As these ancient Sandhill Cranes varied as much in size as the present-day birds, even those Pliocene fossils were sometimes described as new species. *Grus haydeni* on the other hand may or may not have been a prehistoric relative of the living species, or it may actually comprise material of the Sandhill Crane and its ancestor. http://en.wikipedia.org/wiki/Sandhill_Crane*

My classification effort turned out pretty well. I have a clear identification of my 2nd avian fossil bone and will put both in a small riker box. I learned something I did not know about the Sandhill crane in the fossil record. I managed to think about fossils, but not focus on the fact that I will not be fossiling for the next month or two. Maybe I'll go back to that unclassified box of fossil bones again.



NEW INFORMATION ABOUT DINOSAURS

(Excerpts from Telegraph Media, UK)

Dinosaur extinction

Dinosaurs survived for more than 700,000 years after the earth was hit by a massive meteorite originally believed to have caused their extinction, according to new research.

Tests on a fossilised bone of a plant eating dinosaur discovered in New Mexico found that it was only 64.8 million years old.

Scientists at the university of Alberta, Canada, said it is possible that in some areas the vegetation wasn't wiped out and a number of hadrosaur species survived.

Most dinosaurs were vegetarian

Most dinosaurs were vegetarian rather than meat-eating beasts, research suggests.

A new study from the Chicago Field Museum of the diet of 90 species of theropod dinosaurs challenged the conventional view that nearly all theropods hunted prey, especially those closest to the ancestors of birds.

Rather it showed that among the most birdlike dinosaurs known as coelurosaurs plant eating was a common way of life.

Their diet may have also helped them survive and exploit new environments becoming the most successful group of dinosaurs throughout the Cretaceous Period, 145-65 million years ago.

Pterosaurs 'flew like paper aeroplanes'

Pterosaurs flew like paper aeroplanes, gliding slowly on tropical breezes and landing softly to protect their delicate bones, new research suggests.

The flying reptiles, which lived at the same time of the dinosaurs, included some species the size of light aircraft. But for all their terrifying appearance, they may have been the most gentle of aviators.

Scientists at University of Bristol built fossil-based models of pterosaur wing sections and tested them in a wind tunnel.

They found that pterosaurs would have been too slow and flexible to brave turbulent stormy winds, as albatrosses do in the southern ocean today.

Dinosaur mating rituals were more elaborate than peacocks

Prehistoric flying dinosaurs had more elaborate mating displays than modern-day peacocks.

New research into pterosaurs and pelycosaurs – the fin-backed ancestors of modern mammals – have shown their elaborate headrests and sails were developed for the purpose of sexual selection.

Until now, many thought these appendages regulated body temperature or helped them steer while they were flying.

A team from the universities of Hull, Portsmouth and Western Australia found that prehistoric pterosaurs evolved elaborate headrests to help them attract the best mates while the pelycosaurs, a group of our own distant ancestors, developed fantastic sails along their backs to oust sexual competitors.

Dinosaurs had mohawks and freckles

Dinosaurs were not all ginger after all – some had a rusty brown mohawk and freckles, scientists have discovered.

Researchers claimed last month that they could conclusively reveal for the first time the true colour of feathered dinosaurs that walked the earth more than 100 million years ago. It was "russet and orange".

But now another study has come up with even more exciting news – others had "rufous" or rusty brown plumage.

The scientists at Yale University revealed their discovery in the journal Science and created an illustration of how the dinosaur would have looked using microscopic clues from a fossil found in China.

Early dinosaurs had yellow and white stripes

Early feathered dinosaurs, the ancestors of birds, were covered in yellow and white stripes claim British scientists who reveal the true colours of the prehistoric creatures for the first time.

The dinosaur Sinosauropteryx, which lived 100 million years ago, had simple bristles – precursors of feathers – in alternate orange and white rings down its tail, they discovered.

Scientists also discovered feathers came before wings, so may not have originally been used for flight or insulation but for display.

Mike Benton, professor of palaeontology at the University of Bristol, said: "Our research provides extraordinary insights into the origin of feathers.

"In particular, it helps to resolve a long-standing debate about the original function of feathers – whether they were used for flight, insulation, or display."

Dinosaurs were 'hot-blooded' killers

Far from the "terrible lizard" that their Greek name implies, dinosaurs were closer to humans than cold-blooded reptiles, a new study suggests.

Creatures such as the Tyrannosaurus Rex were warm blooded creatures with athletic high metabolisms that could survive in all kinds of cold and harsh conditions. New evidence appears to confirm that the ancient creatures were endothermic, or warm-blooded, like their modern descendants – birds.

Far from being lumbering slow beasts that boosted their energy levels by basking in the sun, they were likely to have been agile and active.

But being warm-blooded would have come at a price, because it requires a lot of feeding.

If food became scarce at the time the dinosaurs became extinct 65 million years ago, this could have made it harder for them to survive.

The US scientists led by Dr Herman Pontzer at the University of Washington, St Louis, based their findings on the estimated amount of energy dinosaurs must have expended moving about.

FLORIDA FOSSIL HUNTERS

2012 FOSSIL FAIR

FOSSILS, ROCKS, GEMS, MINERALS, ARTIFACTS

Learn to dig Florida and see what can be discovered!

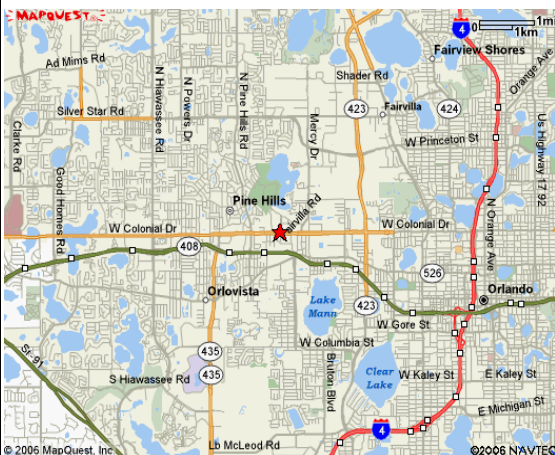
Educational displays, vendors,
Silent auctions, raffles,
KIDS DIG PIT. \$1

Oct 13 and 14

Central Florida Fairgrounds
4603 W. Colonial Dr.
Orlando Florida 32808

Air Conditioned!: INDOORS!

Sat 9:00AM to 5:00PM
Sun 10:00AM to 4PM
\$4/ Adult & \$1/child



Directions: From Tampa: I-4 to Colonial Dr. (Hwy 50) exit. Go west just past Mercy Dr. Fair is on the north side (on the right)

From Daytona: I-4 to Colonial Dr. (Hwy 50) in Orlando. Go west on 50 just past Mercy Dr. Fair is on the north side (on the right).

www.floridafossilhunters.com
407-699-9274

CLEWISTON MUSEUM

The Board of Directors at the Clewiston Museum has erected a plaque in the museum calling it the Mark and Marisa Renz Fossil Exhibit. The exhibit houses many of the fossils found at the LaBelle site and also many fossils that Mark has donated from his lifetime collection. Marisa has her Native American art exhibited permanently at the museum.

