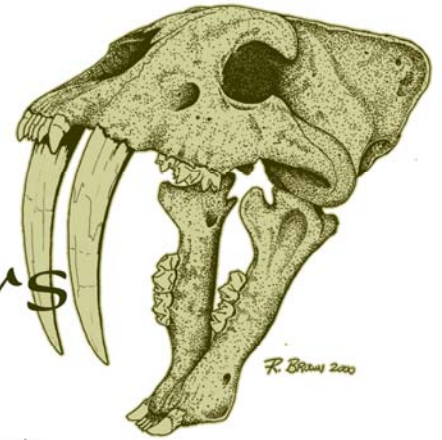


NEWS

Florida Fossil Hunters

Volume 20, Number 6

June 2010



Prez Sez

And now a message from the President.

It's a great time for paleontology. I know, I'm the first guy to say "It's always a great time for paleontology" but believe me, this time, it's a great time for Paleontology!

In the last few weeks, we've made incredible leaps and bounds in our understanding of the natural world. Scientists in Canada, Australia, and Japan successfully cloned blood protein from a Siberian Woolly Mammoth, bringing us one step closer to successfully cloning an extinct animal. (The Pyrenean Ibex, an extinct goat, was cloned in 2009, but did not survive.)

I know, right? But sit down, there's more.

And, in continuing efforts, by working to reverse engineer a chicken embryo to have some of the traits of its dinosaur ancestors, paleontologists at Canada's McGill University are hoping to create a part-chicken, part-dinosaur creature in the lab. As of last month, they've produced separate embryos with long tails, and teeth.

Just two weeks ago, geneticists finished decoding the DNA of the Neanderthal, and found that we're not so different, you and I. (Try saying that last part like a Bond Villain.) Ultimately, there are only 88 proteins that differ between *Homo sapiens* and *Homo neanderthalensis*. So, if your DNA was Tolstoy's *War and Peace*, there's a line on page 142 of the Neanderthal version that has three different words. The rest is identical. (More about this in Bonnie's article.)

Perhaps all of this excitement is a result of the much celebrated opening of the Smithsonian's Hall of Human Origins, in Washington DC. Several of the Science Center's staff have had the chance to visit this exhibition, and reported it as every bit of breathtaking. And while we may not be able to get up there ourselves right away, there is a way that we can contribute. The National Museum of Natural History is asking the question "What does it mean to be human?" and they're inviting the world to help find the answer. I urge you to go to the Smithsonian's website and voice your own opinion and contribution toward this very deep philosophical and scientific conundrum.

<http://humanorigins.si.edu/about/involvement/being-human>

I said "Thumbs and the Internet."

Jimmy Waldron
Florida Fossil Hunters

Coming Events

MEETINGS SATURDAY

at the Orlando Science Center

June 19, 2010

2:00pm Kids' Fossil Blast
3:00pm Meeting

July 17, 2010

July Club Picnic
from 5 pm to whenever

August 21, 2010

2:00pm Kids' Fossil Blast
3:00pm Meeting

Fossil Fair, October 9th and 10th

For more info...

www.floridafossilhunter.com

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Fragments

Peace River Fossils

Be sure to bring the treasures you found during the club digs at the Peace River so all of us can get a look at them...or to get them identified.

Fossil Bucks Auction

This month we have one of our semi-annual Fossil Bucks auctions. Fossil Bucks are earned by attending meetings, field trips and volunteering at the Fossil Fair and Orlando Science Center's Fossilfest, by setting up information booths at public events or giving talks to groups.

So, search all those places where you've stashed your Bucks and come early and to get the Bucks you are still owed. (See pg 7)



Kids' Fossil Blast

This month we will be investigating the world of the creatures that live in shells and the wonderful fossils they have left for us. If you have some favorite shells you have collected, bring them in to share. The meeting will be at 2:00 pm on Saturday, June 19th, at the Orlando Science Center. Hope to see you there.

Items Missing from Library

Please check and see if you have one of these books at your house. Kathy Munroe, our librarian, says these books are missing from the club library.

55. The Evolution Book - Sara Stein - CR 1986 - 389 p.

62. Topographical Maps - Geological Survey Area's - Sorrento, Oviedo, Mascotte, Howey-in-the-Hill's, Gum Lake, Ft. McCoy, Flemington, Eustis, Eureka Dam, Emerald Island, Clermont East, Center Hill, Casselberry, Bithlo, Florida

69. Safe Scuba - William "Bill" Hogan - CR 1971 - 112 p.

85. Vertebrate Fossils : A Neophytes's Guide - Frank A. Kocsis Jr. - CR 1997 - 184 p. - (5 ea.)

94. Life Story, Virginia Lee Burton, the Story of Life on Our Earth From its Beginning up to Now.-CR 1962- 70 p.

103. In the Presence of Dinosaurs, John Colagrande and Lerry Felder, CR 2000- 189 p.

PREHISTORIC PINE HILLS

Part III (if Steven Spielberg could start his story on Part 4, we can begin with 3)

When Alex Kittle gave his presentation to our club in March of 2010, Roger Portell, who is the Coordinator of the Invertebrate Division of the Florida Museum of Natural History, accompanied him. During their visit, Jimmy Waldron showed them some of fossil displays on the 4th floor there at the Orlando Science Center. One of the displays featured the Pine Hills Clay Pit, or Hubbard Pit as some of our long-time members may remember. Mr. Portell pointed out several fossils that greatly interested him and asked for better look at the Pine Hills material that Jeremy Smith, Bonnie and myself had collected.

On May 19th, between the Peace River weekend digs, the three of us went up to Gainesville to meet with Roger at Dickinson Hall. We brought up almost everything we had from the site including the not-so-pretty broken fossils as well as the better specimens for Roger Portell and Dr. Richard Hulbert to examine (and keep if they wanted for study) and to get their input on the age of the site.

We already knew that Pine Hills and much of Central Florida sits upon the Hawthorne lithostratigraphic unit from the Miocene. However, no one is sure of the exact age because of the lack of fossil sites. Adding to the confusion, most of the Hawthorne group is re-worked strata. The unique thing about Pine Hills is not only its location but that the layers exposed are from the Miocene, Pliocene, and Pleistocene.

In the next several newsletters, I will continue with the story of Prehistoric Pine Hills. Not only will I bring you up to date as we receive more data from the Florida Museum of Natural History, but I'll take you back to the beginning of Pine Hills and also my first days as a fossil hunter.

Hope you'll continue to read on

..... Russell Brown

107. Geology, Resources and Society, H.W. Menard, CR 1974- 621 p.

110. Fundamentals of Geomorphology, R.J. Rice - CR 1977- 387p.

111. Introducing Biology, Lloyd Mason Smith & Bonita L. Roohk, CR 1985- 804 p.

113. The Science Library, Dr. Paul E. Blackwood, CR 1971-48 p.

PEACE RIVER REPORT

As I've been saying to everyone...go to the river. So instead of a meeting inside a room, we met outdoors.

On Saturday, we met up at Pioneer Park in Zolfo Springs. The weather was great and the water level low - 4.6 Ft. low. So gravel bars were easy for fossil hunters to find. When the head count was made, we had 20 club members plus three members of Tampa Bay's club that couldn't find their group. First timers had the experience of Dave Dunaway and Bonnie Cronin to show how easy fossil hunting was and everyone had a great time. A giant THANKS to all members who (on all days of diggin') brought fruit, chips, etc.

On Sunday we once again put in at Pioneer Park but went upstream to a gravel bar. I believe there were 14 of us splashing around that day. We all hated to stop but our energy was fading. So we went back to the park to cook hot dogs and eat all the yummy things people had brought. I don't mean to brag, but my cooking skills at the grill are so good that even the alligators crawled out of the swamp trying to beg a hand-out. Don't believe me....ask someone who was there that day.

I want to pause here to say to all members, those who could make it and those who couldn't, that this event is something I would like to do every year. Next year, it will only be a one weekend event. It will be on the new yearly calendar of events and meetings, which will be fine-tuned and voted on at the end of this year. I personally believe that this is a sure win.

Also, I explained to about everyone I could, how easy it is to go down to the river to fossil hunt (ALWAYS CHECK THE WATER LEVEL VIA THE LINK ON OUR WEBSITE). You don't need club dig. Just ask around at the meetings and get a group or take your family and go. All the towns from Bowling Green down to Arcadia have parks, boat ramps, and paths to access the river. You'll probably meet and make new friends on the river with the same quest as you.....to find the Big One.

Crew's Park in Wauchula was the site for our second weekend of digging on the Peace River. Luckily the water level hadn't changed during the week and the water was clear and cool. We went downstream to the gravel bars that can be easily accessed by walking along the bank or by boat. Before we knew it, 29 members were knee-deep in water looking for fossils....even a couple who drove all the way from Alabama to join us. Another FFH member was there with his sons, fishing and hunting for fossils which they do every weekend possible.

Sharks' teeth, stingray, gator, croc, and glyptodont fossils were found along with the usual turtle shell and bone

pieces. Some people were asking why only small stuff was being found. I told everyone that the further you get from the boat ramps and parks, the better chances are that you will find larger and better fossils. About that time, our own Dave Dunaway using his "fanning and looking with a mask method", pulled up a 99% complete mammoth tooth ---right where Ed Metrin, had he showed up, would have been digging. That proved to be the best fossil found during the two weekends.

On Sunday, only about 12 members came out. Some of us had been at it for both weekends, but we were still eager to look some more. Several new members were part of the group and, like everyone who comes to Peace River for the first time, they could not believe what they have been missing. Many went home with a new perspective of Florida's past.

Met a lot of good folks and it was nice to see members enjoying some river time instead of just hearing about it.

I personally would like to thank everyone who made this May Peace River Dig a huge success. I hope all of you get a chance to go this summer....just do it!

...and a special thanks to Dave Dunaway for the use of his boat.

Thanks, again.
Russell Brown

P.S. from Bonnie.....Russell was incredible. His enthusiasm never flagged and his expertise and advice was invaluable. He grills tasty hot dogs, too.

July Club Picnic

Dave Dunaway has graciously offered to host the club's July picnic once again. It will be on July 17th from 5 pm to whenever the fireworks are over.

The club will provide hamburgers and hot dogs with the fixins'. Please bring a favorite dish of yours to share.....salads, casseroles, desserts, etc.

For those of you who've never been to Dave's house, you're in for a real treat. He has a scaled-down version of a real fort that he's built in his backyard over the past few years, a chicken house, and a pool (yes, bring your swimsuits) as well as an interesting collection of fossils and minerals. Then there are the fireworks after dark!

Directions: I-4 to the 434 exit. Go west on I-4 to Markham Woods Rd., turn right at the traffic light onto E.E. Williamson, turn right onto Ferne. Dave's address is 600 Ferne Dr. His phone number is 407-786-8844.

PICTURES FROM THE PEACE



Florida Ridges' Mystery

Marine Fossils Tied to Rising Land, Not Seas, Geologist Says

ScienceDaily (June 1, 2010) — Sea level has not been as high as the distinctive ridges that run down the length of Florida for millions of years. Yet recently deposited marine fossils abound in the ridges' sands.

Now, a University of Florida geologist may have helped crack that mystery.

In a paper appearing June 1 in the June edition of the journal *Geology*, Peter Adams, a UF assistant professor of geological sciences, says his computer models of Florida's changing land mass support this theory: The land that forms the sandy Trail Ridge running north to south from North Florida through South Georgia, as well as lesser-known ridges, was undersea at the time the fossils were deposited -- but rose over time, reaching elevations that exceeded later sea level high stands.

"If you look at the best records, there's no evidence that global sea level has come close to occupying the elevation of these fossils since the time of their emplacement," Adams said, referring to Trail Ridge's elevation today, nearly 230 feet above modern sea level. "The only thing that explains this conundrum is that Trail Ridge was underwater, but later rose to an elevation higher than subsequent sea levels."

At the heart of the phenomenon are Florida's unique weather patterns and geology, Adams said.

The state's abundant rain contains a small amount of carbon dioxide, which forms carbonic acid in lake and river water. This slightly acidic water slowly eats away at Florida's limestone bedrock, forming the karst topography for which Florida is so well known, replete with pockmarks, underground springs and subterranean caverns. The surface water washes the dissolved limestone out to sea, over time significantly lightening the portion of the Earth's crust that covers Florida.

A mass of slow-moving mantle rock resides 6 to 18 miles below the crust. As the Florida land mass lightens, this mantle pushes upward to equilibrate the load, forcing Florida skyward, Adams said. The process is known as isostatic rebound, or isostatic uplift.

"It's just like what happens when you get out of bed in the morning. The mattress springs raise the surface of the bed back up," Adams said, adding that the uplift is similar to what takes place when glaciers retreat, with Maine and

Norway, for example, also gaining elevation.

Glaciers melt off the land surface to drive isostatic uplift. But in Florida, varying rainfall rates during different periods have slowed or quickened the karstification just below the land. This has in turn slowed or quickened the mantle's push up from below. Additionally, sea level high stands do not always return to the same elevation, which creates a complex history of which beach ridges are preserved and which aren't, Adams said.

For instance, during periods when sea level rose quickly, some pre-existing ridges were overtaken and wiped out. During other periods, however, when sea level rose slowly or did not reach a certain ridge's elevation, a beach ridge was preserved. In effect, Trail Ridge, Lake Wales Ridge and other lesser-known ridges are the remains of isostatically uplifted land that was kept out of harm's way, Adams said. The ridges carry with them the marine fossils that are the evidence of their lowly early beginnings.

Today, the land surface of Florida is rising at a rate of about one-twentieth of a millimeter annually, far more slowly than sea level rise estimated at approximately 3 millimeters annually. Adams noted that Florida's rise is not nearly rapid enough to counteract sea level rise -- and that society should be mindful that low-lying coastal areas are threatened.

Neil Opdyke, a UF professor emeritus and a co-author of the recent paper, first proposed the uplift process in a 1984 paper. Adams tested it using computer models that matched known information about sea levels dating back 1.6 million years with historic rainfall patterns, karstification rates and mantle uplift. The models concluded that Trail Ridge is approximately 1.4 million years old -- and has been preserved because of uplift and the fact that sea levels have not reached the ridge's elevation since its formation. In addition, Florida's one-twentieth of a millimeter rise is twice as fast as previously thought.

"The neat thing about this paper is, it combines many different systems that people work on. There are people who work on uplift, people who work on erosion of karst, people who work on precipitation and paleoclimate," Adams said. "And I knew just enough about all these things to be dangerous. So I said, 'Let's take what we know from the literature and put it together in a simple mathematical model to see how the whole system responds.'"

June 2010

Fossil Bucks Auction

1. 4-1/2" Megalodon shark tooth
2. Display case
3. Shark tooth necklace
4. Polished ammonite in display case
- N 5. Blue Celestite
- J 6. Stegasaurus plush toy
7. Phantom quartz
8. Fossil fish
9. Brazilian agate
10. Druzy quartz & green Apoplollyte
- N 11. Sifter
- J 12. 3 wire-wrapped shark teeth
13. Display case
14. Coral grown over conch shell
15. Antique beer bottle
16. Petrified dinosaur bone

*N - members who are "new"
...joined within the last year*

J - "junior" members...kids under 16

More Results From Neanderthal DNA

After extracting ancient DNA from the 40,000-year-old bones of Neanderthals, scientists have obtained a draft sequence of the Neanderthal genome, yielding important insights into the evolution of modern humans.

Among the findings, published in the May 17th issue of *Science*, is evidence that shortly after early modern humans migrated out of Africa, some of them interbred with Neanderthals, leaving bits of Neanderthal DNA sequences scattered throughout the genomes of all non-African peoplenot only in Europeans, but also in people from East Asia and Papua New Guinea, where Neanderthals never lived. This would indicate that the admixture occurred early on, probably in the Middle East, and is shared with all the descendents of the early humans who migrated out of Africa.

The sequences were found by comparing human, Neanderthal, and chimpanzee genomes and are sparsely distributed across the genome...just "bread crumbs" of what happened in the past.

The ancestral lineages of humans and chimpanzees are thought to have diverged about 5 to 6 million years ago. By analyzing the Neanderthal genome and genomes of modern day humans, it is estimated that the ancestral populations of Neanderthals and modern humans separated between 270,000 and 400,000 years ago.

The evidence for more recent gene flow between Neanderthal and humans came from an analysis showing that Neanderthals are more closely related to some present-day humans than others.

For further details, read the entire article at www.sciencedaily.com/releases/2010/05/100506141549.htm

Florida Fossil Hunters

is a fun and educational group whose goal is to further our understanding of the prehistory of Florida. We encourage family participation and welcome explorers of all ages.

Membership is \$17 per year. Other household members may be included at no charge.

Meetings are held the third Wednesday of each month at 7:00pm, check the website for the location.

Officers:

President	Jimmy Waldron	(386) 212-5814
Vice President	Russell Brown	(352) 429-1058
Secretary	Glory Kerr	
Treasurer	Sara Morey	(407) 353-8675

Chairs:

Education	Melissa Cole	(407) 834-5615
Field Trips		
Fossil Fair	Valerie First	(407) 699-9274
Fossil Auctions	Dave Dunaway	(407) 786-8844
Fossil Bucks	Dave Dunaway	(407) 786-8844
Fossil Lotto	Ed Metrin	(407) 321-7462
Auctioneer	Roy Singer	(407) 645-0200
Historian	Valerie First	(407) 699-9274
Librarian	Kathy Munroe	(407) 846-7382
Membership	Joanne Maio	(407) 375-3635
Newsletter	Bonnie Cronin	(352) 429-1058
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 Dave Dunaway (407) 786-8844
 Ed Metrin (407) 321-7462
 John Jelks (407) 568-5558
 Roy Singer (407) 645-0200

Membership Application

Names: _____

Associate Members: _____

Address: _____

City: _____

State: Zip: _____

e-mail: _____

____ New ____ Renewal

Please list any interests, experience, talents or just plain enthusiasm, which you would like to offer to the club:

Membership is \$17 per year. Our membership year runs from January to December. All renewals are done in December and January.

Please make your checks payable to:

Florida Fossil Hunters
 Post Office Box 540404
 Orlando, Florida 32854-0404

Associate members are people in the same household, included at no extra charge, 2 adult votes per household.

Newsletter Policy

Articles must be submitted by the first of the month to be included in that month's newsletter. These can be mailed to the above Post Office Box or e-mailed to: elise@liseydreams.com. Articles can be sent as text in the e-mail or in Microsoft Word files (*.doc).

Please note in subject of email 'FFH'.

Florida Fossil Hunters Mark Your Calendar

See page 2-3 for more information on events.

June 19, 2010

2:00pm Kids' Fossil Blast
3:00pm Meeting

July 17, 2010

July Club Picnic
from 5 pm to whenever

August 21, 2010

2:00pm Kids' Fossil Blast
3:00pm Meeting

Fossil Fair, October 9th and 10th

No Vulcan field trips until Fall



Join Our new facebook group:

Search [Florida Fossil Hunters](#)

Be Green

We are *emailing* the newsletter each month. If you want to participate, just email Bonnie at bjrb48@netzero.com or sign up at the meeting. If you want to continue to receive a paper newsletter in the mail, you don't have to do anything.



Visit us online at www.floridafossilhunters.com

Articles and comments should be sent to: elise@liseydreams.com

Florida Fossil Hunters

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Florida Fossil Hunters News