NEWS
Florida Fossil Hunters

Volume 16, Number 8 September 2006

Prez Sez

I want to thank Dr. Robert Sinibaldi for his informative talk at our meeting in August. It gave us all a new perspective on American Indians and fishing.

Our fossil fair is just around the corner. Be sure to sign up to volunteer for the fair at this month's meeting. Also get all your extra fossils ready to bring to the fossil fair for the Kids' Pit. Bring them to the fair....not the meeting.

All the tables have been reserved by vendors so this show will have a wonderful variety of fossils and minerals and books and curiosities.

See you at the Meeting!
Dave Dunaway

Volunteer at the Fossil Fair.

See how you can help on page 2.

Coming Events

September 20th
7:00pm Meeting
at Lee Middle School

October 18th
6:00pm Kids' Blast
7:00pm Meeting
at Edgewater Library

November 15th
7:00pm Meeting
at Edgewater Library

December - date tba
7:00pm Meeting
at Dave Dunaway's House

Mark your calendar
Florida Fossil Fair 2006
October 14 & 15

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Fragments

New Continent in the Making
The Horn of Africa, the northeast part in Ethiopia near the Red Sea, has been developing a rift which will detach it from the main continent. Eventually it will connect to the Red Sea and be filled with water. Of course, the whole process will probably take a million years so we won't get to see the finale.

Peek into the Future
The Australian continent has some of the oldest exposed rock layers on earth. One of the reasons it still has them is that Australia is geologically stable; no volcanoes or plates pushing up mountains to be eroded out, etc. At first glance, being geologically stable would seem to be a good thing. However, one of the results is that it has poor soil.

One day, the earth will cool and the plates will stop moving and the magma will not reach the surface. All the land masses will resemble Australia. The reptiles might get a second chance to dominate the earth.

Rise of Man
There will be a "Rise of Man" special airing on the Science Channel on Sept. 24th at 9 PM. The shows that have come out in the last few years about prehistoric man have been very interesting. However, I have a pet peeve when it comes to those shows. They always show the Neanderthals running around with animal skins draped over them but nothing on their legs. They weren't blind for goodness sakes. They could see that animals had fur on their legs to keep them warm. If the Neanderthals were intelligent enough to make tools and coordinate a hunt, they were certainly smart enough to at least tie skins around their legs even if they didn't sew. Anyway...enjoy the show.

Kids' Fossil Blast

The next Kids' Fossil Blast will be on Wednesday, October 18th at 6 PM before our regular meeting. It will be at the Edgewater Library in the shopping center on the NE corner of the intersection of Edgewater and Lee Rd. (our regular membership meeting will be there also).

Hope to see you there.

Bonnie Cronin

Help at the Fossil Fair

Friday, October 13th
Dealer set up is from 3 to 7PM. We need people to participate in setting up the children's pit, bringing kids pit material (fossils), bringing and laying out extension cords, moving chairs, hanging posters, etc. We still need someone (or two) for the Friday night security.

Saturday, October 14th and Sunday, October 15th
Sharon Lynes, our membership person, will have the sign up sheet at the September meeting but if you want to just show up, before or during the fair (especially during the fair), there will be plenty to do. We need people at the door to collect admission and raffle donations, silent auction workers and membership information workers, and we need people to help in the kids pit. We will also need people to help put the signs up near the fairgrounds and then take them down after the show.

If anyone has a place to hang flyers, such as their local library, it would be good to do it this month. If you do not have a flyer, they may be obtained from our club web site. There should be some flyers at the September meeting.

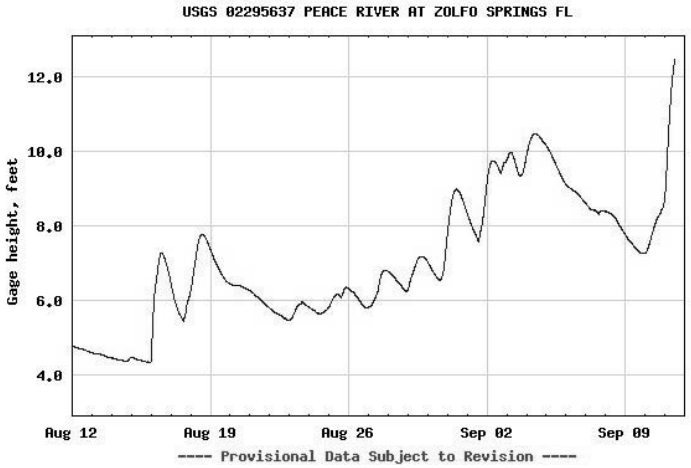
Valerie First

Florida Fossil Far 2006 -- October 14 & 15

A Piece on the Peace

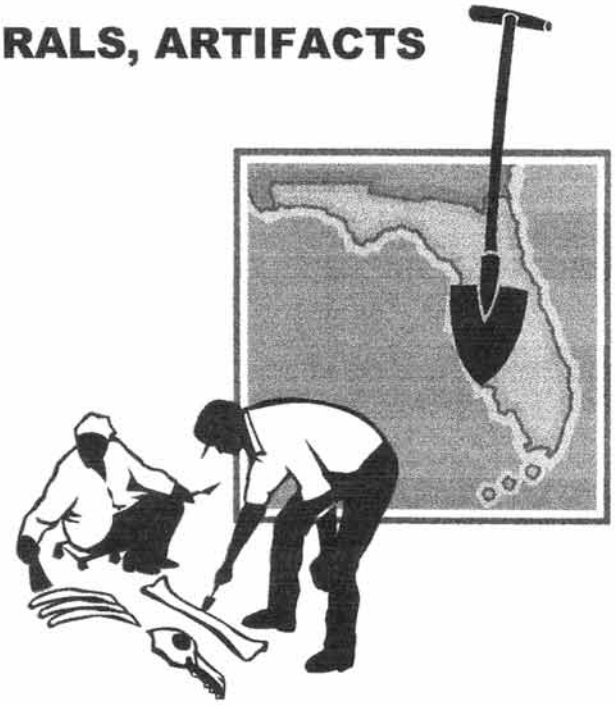
The water level is going the wrong way.....UP. But now that the tropical systems have cleared out, it might go back down so we can hunt again.

Heard on the news that El Nino is trying to make a come back. This weather pattern has the bad habit of giving us rainy winters. So when the Peace goes down this fall, take advantage of it because it won't stay low for long.



FLORIDA FOSSIL HUNTERS 2006 FOSSIL FAIR

FOSSILS, GEMS, MINERALS, ARTIFACTS



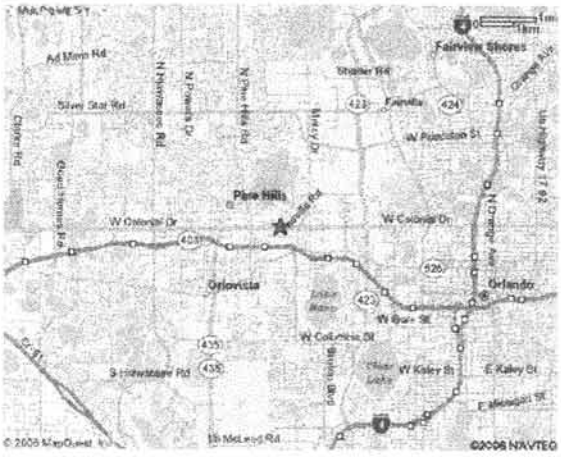
Learn to dig Florida and see what can be discovered!

Educational displays, vendors,
Silent auctions, raffles,
KIDS DIG PIT. $.50

Oct 14 and 15

Central Florida Fairgrounds
4603 W. Colonial Dr
Orlando Florida 32808

Sat 9:00AM to 5:00PM
Sun 10:00AM to 4PM
$3/ 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

Florida Fossil Hunters News

Paleontologist Discovers South American Mammal Fossils

Fossils of a new hoofed mammal that resembles a cross between a dog and a hare which once roamed the Andes Mountains in southern Bolivia around 13 million years ago was discovered by Darin A. Croft, assistant professor of anatomy at the Case Western Reserve University School of Medicine and a research associate at the Cleveland Museum of Natural History.

Fossils of a new hoofed mammal that resembles a cross between a dog and a hare which once roamed the Andes Mountains in southern Bolivia around 13 million years ago was discovered by Darin A. Croft, assistant professor of anatomy at the Case Western Reserve University School of Medicine and a research associate at the Cleveland Museum of Natural History. (Image courtesy of Case Western Reserve University)

With Federico Anaya from Universidad Autónoma Tomás Frías, Croft reported on the new mammal find named Hemihegetotherium trilobus in the Journal of Vertebrate Paleontology article, "A New Middle Miocene Hegetotherid (Notoungulata: Typotheria) and a Phylogeny of the Hegetotheriidae." It is named for the distinctive three lobes on its back lower molar teeth.

The animal belonged to a group of animals called notoungulates—hoofed mammals native only to South America. The group originated in South America soon after the dinosaurs went extinct and evolved to include hundreds of species over a span of more than 50 million years; all of them are now extinct. Although most notoungulates were gone before humans got to South America, some of the earliest humans to journey to that continent may have seen the last living notoungulates.

For most of the time the notoungulates were living in South America, the continent was an island, isolated from both Antarctica and North America. The main groups of mammals living there were marsupials (like opossums), rodents, monkeys, armadillos, sloths, and various hoofed mammals.

The notoungulates were the most diverse group of hoofed animals in South America before it was reconnected to North America through the Panama land bridge about two to three million years ago. This reconnection began an exchange of mammals between the two continents and dramatically changed the types of mammals found in South America today.

The fossil specimens were collected from the Quebrada Honda and Rio Rosario areas of Bolivia, near the border with Argentina. They were found in an area much like the land formations that comprise the Badlands National Park in South Dakota where the earth is soil poor and comprised of silty clays, sand and gravel. The area, located at an altitude of approximately 11,500 feet, was susceptible to weather conditions that eroded the rocks and exposed the fossils in the lower portions of the formations at the two sites.

It is thought the animals probably lived in open areas but may have burrowed into holes like rabbits. The tall teeth suggest it probably fed on abrasive foods like grasses and other plants close to the ground.

This new animal belongs to a particular family of notoungulates known as hegetotheres. Hegetotheres are relatively rare fossils in the northern part of South America; the Quebrada Honda site is the only fifth place in Bolivia they have been found and the seventh site in the northern half of the continent.

"As the first member of its family known from this particular time interval, it helps us fill in gaps in the history of this group that existed in South America for 30 million years," said Croft.

Although new fossil species are usually found by excavation, during a 1999 paleontology conference in Bolivia, Croft found the fossil remains among other notoungulate specimens at the Museo Nacional de Historia Natural (National Museum of Natural History) in La Paz.

He noticed that the notoungulate specimen drawers contained fossils of an animal that had lower molar teeth with three distinct lobes and were rootless, which meant, like today's rabbits and other rodents, that the teeth continued to grow throughout the animal's life. Most other notoungulates have only two lobes on their molars, said Croft.

He later noticed other differences that supported the identification of the fossils as a new species. When pieced together, the animal would be about the size of a 25-pound beagle and might have looked a bit like a cross between a dog and a rabbit.

He added that this find illustrates the importance of studying museum collections: "Specimens of this animal had been known for nearly 30 years, but had never been recognized as pertaining to a new species."

Some of the specimens included complete skulls of about six inches in length, with jaws and parts of the skeletons.

He also compared the new species with specimens in the paleontology collections at the American Museum of Natural History, the Florida Museum of Natural History, the Museo de La Plata (Argentina), and The Field Museum in Chicago where he spent much of his time during his doctoral studies

con't on page 5

con't from page 4

in organismal biology and anatomy at the University of Chicago.

"Notoungulates were a very successful group of plant-eating mammals for a long time. They existed for some 55 million years, only going extinct about 10,000 years ago," said Croft.

Croft, a paleontologist who joined the faculty in the Case School of Medicine in 2003, specializes in the evolution of South American mammals and annually makes field trips to the continent to study fossils in Chile, Ecuador and/or Bolivia.

He plans to return to the Quebrada Honda site and do fieldwork next year to learn more about this newly discovered mammal and other new species that may occur there.

Research for this paper was supported by the National Science Foundation, the National Geographic Society and the Case School of Medicine.

In addition to this fossil, and while at The Field Museum in Chicago, Croft worked on an education project connected with Sue, one of the most complete fossils of Tyrannosaurus rex ever discovered; he also helped with the development of the new "Evolving Planet" permanent exhibit at the museum. He was nominated for an Emmy Award in Chicago in the category of children's programming for "The Sue Files."

Climate Change Rocked Cradles Of Civilization

Severe climate change was the primary driver in the development of civilisation, according to new research by the University of East Anglia.

The early civilisations of Egypt, Mesopotamia, South Asia, China and northern South America were founded between 6000 and 4000 years ago when global climate changes, driven by natural fluctuations in the Earth's orbit, caused a weakening of monsoon systems resulting in increasingly arid conditions. These first large urban, state-level societies emerged because diminishing resources forced previously transient people into close proximity in areas where water, pasture and productive land was still available.

In a presentation to the BA Festival of Science on September 7, Dr Nick Brooks will challenge existing views of how and why civilisation arose. He will argue that the earliest civilisations developed largely as a by-product of adaptation to climate change and were the products of hostile environments.

"Civilisation did not arise as the result of a benign environment which allowed humanity to indulge a preference for living in complex, urban, 'civilized' societies," said Dr Brooks.

"On the contrary, what we tend to think of today as 'civilisation' was in large part an accidental by-product of unplanned adaptation to catastrophic climate change. Civilisation was a last resort - a means of organising society and food production and distribution, in the face of deteriorating environmental conditions."

He added that for many, if not most people, the development of civilisation meant a harder life, less freedom, and more inequality. The transition to urban living meant that most people had to work harder in order to survive, and suffered increased exposure to communicable diseases. Health and nutrition are likely to have deteriorated rather than improved for many. The new research challenges the widely held belief that the development of civilization was simply the result of a transition from harsh, unpredictable climatic conditions during the last ice age, to more benign and stable conditions at the beginning of the Holocene period some 10,000 years ago.

The research also has profound philosophical implications because it challenges deeply held beliefs about human progress, the nature of civilisation and the origins of political and religious systems that have persisted to this day. It suggests that civilisation is not our natural state, but the unintended consequence of adaptation to climatic deterioration - a condition of humanity 'in extremis'.

Dr Brooks said: "Having been forced into civilized communities as a last resort, people found themselves faced with increased social inequality, greater violence in the form of organised conflict, and at the mercy of self-appointed elites who used religious authority and political ideology to bolster their position. These models of government are still with us today, and we may understand them better by understanding how civilisation arose by accident as a result of the last great global climatic upheaval."

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, Lee Middle School Cafeteria (Maury Road, two blocks West of Edgewater Drive, Orlando).

Officers:

President	Dave Dunaway	(407) 786-8844
Vice President	Paul Bordenkircher	(407) 687-3843
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Fossil Bucks	Dave Dunaway	(407) 786-8844
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Fossil Lotto	Ed Metrin	(407) 321-7462
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	Elise Cronin-Hurley	(407) 929-6297
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	elise@liseydreams.com	

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Jeremy Smith	(407) 293-9391
Roy Singer	(407) 645-0200
Ed Metrin	(407) 321-7462
Tom Tomlinson	(407) 290-8474

Florida Fossil Hunters

Membership Application

Names: _____

Associate Members: _____

_____

_____

_____

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

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

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 messages in the e-mail or in Microsoft Word files (*.doc).

Modern Humans, Not Neandertals, May Be Evolution's 'Odd Man Out'

Could it be that in the great evolutionary "family tree," it is we Modern Humans, not the brow-ridged, large-nosed Neandertals, who are the odd uncle out?

The most unusual characteristics throughout human anatomy occur in Modern Humans (right), argues Trinkaus, not in Neadertals (left). (Image courtesy of Washington University in St. Louis)

New research published in the August, 2006 journal Current Anthropology by Neandertal and early modern human expert, Erik Trinkaus, Ph.D., professor of anthropology at Washington University in St. Louis, suggests that rather than the standard straight line from chimps to early humans to us with Neandertals off on a side graph, it's equally valid, perhaps more valid based on the fossil record, that the line should extend from the common ancestor to the Neandertals, and Modern Humans should be the branch off that.

Trinkaus has spent years examining the fossil record and began to realize that maybe researchers have been looking at our ancient ancestors the wrong way.

Trinkaus identified fossil traits which seemed to be genetic markers - those not greatly influenced by environment, life ways and wear and tear. He was careful to examine traits that appear to be largely independent of each other to avoid redundancy.

"I wanted to see to what extent Neandertals are derived, that is distinct, from the ancestral form. I also wanted to see the extent to which modern humans are derived relative to the ancestral form," Trinkaus says. "What I came up with is that modern humans have about twice as many uniquely derived Neandertals, whom we tend to look at as strange, weird and unusual, but it's us - Modern Humans."

The most unusual characteristics throughout human anatomy occur in Modern Humans, argues Trinkaus. "If we want to better understand human evolution, we should be asking why Modern Humans are so unusual, not why the Neandertals are divergent. Modern Humans, for example, are the only people who lack brow ridges. We are the only ones who have seriously shortened faces. We are the only ones with very reduced internal nasal cavities. We also have a number of detailed features of the limb skeleton that are unique."

Trinkaus admits that every paleontologist will define the traits a little differently. "If you really wanted to, you could make the case that Neandertals look stranger than we do. But if you are reasonably honest about it, I think it would be extraordinarily difficult to make Neandertals more derived than Modern Humans."

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