NEWS Florida Fossil Hunters

Florida Prehistorical Museum, Inc.
dba/ Florida Fossil Hunters
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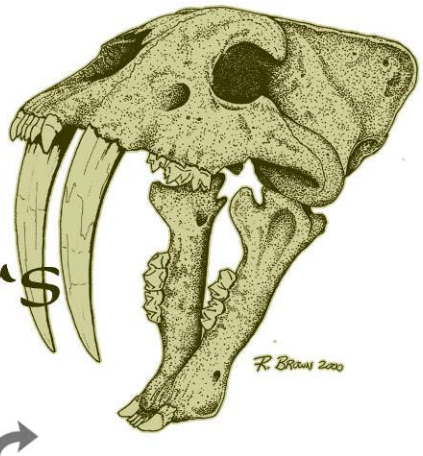
MAR/APR 2021



From Ye Olde President.....

Hi Everyone.

I hope everyone is being careful and safe with the Coronavirus.

We're always looking for new members to volunteer and help out us "old folks". Much of the new tech is way beyond us. Your club is in need of NEW talent to take the club forward. We need FFH members to volunteer with knowledge about social media and online tools to help promote and better manage the FFH club.

February's field trip to Chris DeLorey Warehouse and store was a great learning experience for FFH members.

Chris Delorey and his staff's were very helpful and educational to all FFH members' questions.

Chris has an amazing collection with items for sale and gave FFH members great deals.

Our guest speaker for March's meeting will be John McIntosh. Topic of discussion will be Fossils.

Our guest speaker for April's meeting will be Aiden Rouse. Topic of discussion will be Melbourne Fossil Beds Dig.

April 10 FFH field trip will be at Yankee Town. We ask if any members has a boat or canoe to volunteer and help transport members to the Islands for digging. Remember only FFH members can participate with FFH field trips due to our insurance requirements.

Friendly reminder to all FFH members.
Masks and social distancing are required at all FFH activities. Please lets keep all activities safe and follow social distancing. Any member not wearing a mask will be asked to wear one or they will have to leave any club activities.

Salvatore Sansone, FFH President

Meeting Information
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Renew Your 2021 Membership Online today!

Coming Events

UPCOMING MEETINGS
at the Orlando Science Center

FFH meeting at OSC
Saturday, March 20h
2 pm - Kids' program
3 pm - Meeting

FFH meeting at OSC
Saturday, April 17th
3 pm - Meeting

Save the Date 2021 Fossil Fair
Sat., Oct. 16, 9 am - 5 pm
Sun., Oct. 17, 10am - 4 pm
Sanford Civic Center

More events listed on back page
For more info...
www.floridafossilhunters.com

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MEETINGS & MORE

Sat. March 20th Mtg 2:00pm - 5:00pm

Orlando Science Center
3pm: Guest speaker will be **John McIntosh** to talk about **Fossils**.

Kids' Fossil Blast

March 20th 2-3pm

Kids' Fossil Blast is an informal, hands-on experience aimed at kids ages 5 to 14.

Sat. April 10th Field Trip

Field Trip Yankeetown Spoil Islands
Saturday, April 10th
Meet at the boat ramp 8:30-9:00.

Canoe, kayak, or boat needed to access the islands, the channel is too deep to walk over and the current is too strong to swim. It's a very relaxing place to spend a few hours hunting for echinoids, sand dollars, etc. We often see dolphins and manatees swimming around. Bring your fishing gear if you are so inclined.

Looking for volunteers with boats. But if you don't have a boat, join us and we will ferry you across! Even if you are late, just honk your horn and we will hear you and come and ferry you across.

Recommendations: Bring drinks, food, bug spray, hat, etc. Wear gym shoes or dive boots – corals are sharp. No restaurants in the immediate area.

Questions? Call Dave Dunaway: 407-493-4253 (cell)

Sat. April 17th Mtg 3:00pm - 5:00pm

Orlando Science Center
3pm: Guest speaker will be **Aiden Rouse** to talk about **Melbourne Fossil Beds Dig**.

Meetings are held at the Orlando Science Center. *Unless otherwise noted. Admission and parking is FREE to attending members. At the garage & ticket counter inform them you are there for the meeting.*

REGISTER/RENEW

Membership prices have changed.
Family $25 | Individual $20

RENEW NOW ONLINE!

https://floridafossilhunters.com/membership

LOCAL SHOWS

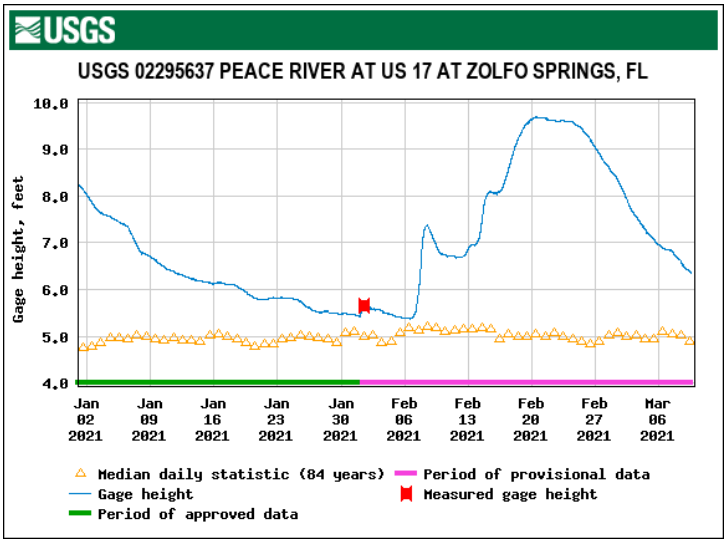
Central Florida Mineral & Gem Society, Inc.
Rock, Mineral, Gem, Jewelry & Fossil Show
April 17th and April 18, 2021
at the Sanford Civic Center
401 E. Seminole Blvd., Sanford, FL 32771.

Show time: Saturday 9am to 5pm and Sunday 9am to 4pm. Vendors: minerals, rocks, fossils, beads, gemstones, handcrafted cabochons and jewelry, etc.
Also available: silent auction, door prizes, demonstrations, family activities and scavenger hunt.
Admission fee: Adults $5, Kids $2, Scouts in uniforms Free.
Website: www.cfmgs.org.

Questions, e-mail bettys1400@outlook.com or call Betty Sumner, Secretary 407-761-0622.
Central Florida Mineral & Gem Society, Inc.

PIECE ON THE PEACE

Water level from January 1st to March 9th
Want the latest? Easy button available on website



Please check floridafossilhunters.com close to scheduled events to verify plans due to COVID-19, event status may change dependent on facility closings.

Masks and social distancing are required at all FFH activities. Any member not wearing a masked will be asked to wear one or they will have to leave club activities.

Neanderthals had the capacity to perceive and produce human speech

March 1, 2021

Source: Binghamton University

Neanderthals -- the closest ancestor to modern humans -- possessed the ability to perceive and produce human speech, according to a new study published by an international multidisciplinary team of researchers including Binghamton University Associate Professor of Anthropology Rolf Quam and graduate student Alex Velez.

Neanderthal skull with modern human skull in background (stock image). Credit: © Bruder / stock.adobe.com

"This is one of the most important studies I have been involved in during my career," said Quam. "The results are solid and clearly show the Neanderthals had the capacity to perceive and produce human speech. This is one of the very few current, ongoing research lines relying on fossil evidence to study the evolution of language, a notoriously tricky subject in anthropology."

The evolution of language, and the linguistic capacities in Neanderthals in particular, is a long-standing question in human evolution.

"For decades, one of the central questions in human evolutionary studies has been whether the human form of communication, spoken language, was also present in any other species of human ancestor, especially the Neanderthals," said coauthor Juan Luis Arsuaga, professor of paleontology at the Universidad Complutense de Madrid and co-director of excavations and research at the Atapuerca archaeological sites in northern Spain. The latest study has reconstructed how Neanderthals heard to draw some inferences about how they may have communicated.

The study relied on high resolution CT scans to create virtual 3D models of the ear structures in Homo sapiens and Neanderthals as well as earlier fossils from the site of Atapuerca that represent ancestors of the Neanderthals. Data collected on the 3D models were entered into a software-based model, developed in the field of auditory bioengineering, to estimate the hearing abilities up to 5 kHz, which encompasses most of the frequency range of modern human speech sounds. Compared with the Atapuerca fossils, the Neanderthals showed slightly better hearing between 4-5 kHz, resembling modern humans more closely.

In addition, the researchers were able to calculate the frequency range of maximum sensitivity, technically known as the occupied bandwidth, in each species. The occupied bandwidth is related to the communication system, such that a wider bandwidth allows for a larger number of easily distinguishable acoustic signals to be used in the oral communication of a species. This, in turn, improves the efficiency of communication, the ability to deliver a clear message in the shortest amount of time. The Neanderthals show a wider bandwidth compared with their ancestors from Atapuerca, more closely resembling modern humans in this feature.

"One of the other interesting results from the study was the suggestion that Neanderthal speech likely included an increased use of consonants," said Quam. "Most previous studies of Neanderthal speech capacities focused on their ability to produce the main vowels in English spoken language. However, we feel this emphasis is misplaced, since the use of consonants is a way to include more information in the vocal signal and it also separates human speech and language from the communication patterns in nearly all other primates. The fact that our study picked up on this is a really interesting aspect of the research and is a novel suggestion regarding the linguistic capacities in our fossil ancestors."

Thus, Neanderthals had a similar capacity to us to produce the sounds of human speech, and their ear was "tuned" to perceive these frequencies. This change in the auditory capacities in Neanderthals, compared with their ancestors from Atapuerca, parallels archaeological evidence for increasingly complex behavioral patterns, including changes in stone tool technology, domestication of fire and possible symbolic practices. Along these lines, the study provides strong evidence in favor of the coevolution of increasingly complex behaviors and increasing efficiency in vocal communication throughout the course of human evolution.

The study, "Neandertals and modern humans had similar auditory and speech capacities," was published in Nature Ecology and Evolution.

Read the full article at: https://www.sciencedaily.com/releases/2021/03/210301112358.htm

Climate change likely drove the extinction of North America's largest animals

February 16, 2021

A new study published in Nature Communications suggests that the extinction of North America's largest mammals was not driven by overhunting by rapidly expanding human populations following their entrance into the Americas. Instead, the findings, based on a new statistical modelling approach, suggest that populations of large mammals fluctuated in response to climate change, with drastic decreases of temperatures around 13,000 years ago initiating the decline and extinction of these massive creatures. Still, humans may have been involved in more complex and indirect ways than simple models of overhunting suggest.

Before around 10,000 years ago, North America was home to many large and exotic creatures, such as mammoths, gigantic ground-dwelling sloths, larger-than-life beavers, and huge armadillo-like creatures known as glyptodons. But by around 10,000 years ago, most of North America's animals weighing over 44 kg, also known as megafauna, had disappeared. Researchers from the Max Planck Extreme Events Research Group in Jena, Germany, wanted to find out what led to these extinctions. The topic has been intensely debated for decades, with most researchers arguing that human overhunting, climate change, or some combination of the two was responsible. With a new statistical approach, the researchers found strong evidence that climate change was the main driver of extinction.

Overhunting vs. climate change

Since the 1960's, it has been hypothesized that, as human populations grew and expanded across the continents, the arrival of specialized "big-game" hunters in the Americas some 14,000 year ago rapidly drove many giant mammals to extinction. The large animals did not possess the appropriate anti-predator behaviors to deal with a novel, highly social, tool-wielding predator, which made them particularly easy to hunt. According to proponents of this "overkill hypothesis," humans took full advantage of the easy-to-hunt prey, devastating the animal populations and carelessly driving the giant creatures to extinction.

Not everyone agrees with this idea, however. Many scientists have argued that there is too little archaeological evidence to support the idea that megafauna hunting was persistent or widespread enough to cause extinctions. Instead, significant climatic and ecological changes may have been to blame.

Around the time of the extinctions (between 15,000 and 12,000 years ago), there were two major climatic changes. The first was a period of abrupt warming that began around 14,700 years ago, and the second was a cold snap around 12,900 years ago during which the Northern Hemisphere returned to near-glacial conditions. One or both of these important temperature swings, and their ecological ramifications, have been implicated in the megafauna extinctions.

"A common approach has been to try to determine the timing of megafauna extinctions and to see how they

align with human arrival in the Americas or some climatic event," says Mathew Stewart, co-lead author of the study. "However, extinction is a process -- meaning that it unfolds over some span of time -- and so to understand what caused the demise of North America's megafauna, it's crucial that we understand how their populations fluctuated in the lead up to extinction. Without those long-term patterns, all we can see are rough coincidences."

'Dates as data'

To test these conflicting hypotheses, the authors used a new statistical approach developed by W. Christopher Carleton, the study's other co-lead author, and published last year in the *Journal of Quaternary Science*. Estimating population sizes of prehistoric hunter-gatherer groups and long-extinct animals cannot be done by counting heads or hooves. Instead, archaeologists and palaeontologists use the radiocarbon record as a proxy for past population sizes. The rationale being that the more animals and humans present in a landscape, the more datable carbon is left behind after they are gone, which is then reflected in the archaeological and fossil records. Unlike established approaches, the new method better accounts for uncertainty in fossil dates.

The major problem with the previous approach is that it blends the uncertainty associated with radiocarbon dates with the process scientists are trying to identify.

"As a result, you can end up seeing trends in the data that don't really exist, making this method rather unsuitable for capturing changes in past population levels. Using simulation studies where we know what the real patterns in the data are, we have been able to show that the new method does not have the same problems. As a result, our method is able to do a much better job capturing through-time changes in population levels using the radiocarbon record," explains Carleton.

North American megafauna extinctions

The authors applied this new approach to the question of the Late Quaternary North American megafauna extinctions. In contrast to previous studies, the new findings show that megafauna populations fluctuated in response to climate change.

"Megafauna populations appear to have been increasing as North American began to warm around 14,700 years ago," states Stewart. "But we then see a shift in this trend around 12,900 years ago as North America began to drastically cool, and shortly after this we begin to see the extinctions of megafauna occur."

And while these findings suggest that the return to near glacial conditions around 12,900 years ago was the proximate cause for the extinctions, the story is likely to be more complicated than this.

"We must consider the ecological changes associated with these climate changes at both a continental and regional scale if we want to have a proper understanding of what drove these extinctions," explains group leader Huw Groucutt, senior author of the study. "Humans also aren't completely off the hook, as it remains possible that they played a more nuanced role in the megafauna extinctions than simple overkill models suggest."

Many researchers have argued that it is an impossible coincidence that megafauna extinctions around the world often happened around the time of human arrival. However, it is important to scientifically demonstrate that there was a relationship, and even if there was, the causes may have been much more indirect (such as through habitat modification) than a killing frenzy as humans arrived in a region.

The authors end their article with a call to arms, urging researchers to develop bigger, more reliable records and robust methods for interpreting them. Only then will we develop a comprehensive understanding of the Late Quaternary megafauna extinction event.

https://www.sciencedaily.com/releases/2020/12/201209140358.htm

Explore these Facebook Groups

- The Cretaceous Period
- World of Prehistoric Creatures
- Cenozoic Mammals
- Prehistoric Universe

Flashback... Did you Miss these?

Skull Of Refrigerator-Size Ancient Armadillo Finds A Home At UF

https://news.ufl.edu/archive/1997/12/skull-of-refrigerator-size-ancient-armadillo-finds-a-home-at-uf-1.html

Early North Americans lived with extinct giant beasts, study shows

https://www.sciencedaily.com/releases/2012/05/120503153929.htm

The Daytona Beach Bone Beds Fossil Site

February 2021

Most people vacationing in Daytona Beach want to see car racing, but if I went there, I'd rather go to the Museum of Arts and Sciences. Specimens of a giant ground sloth (Eremotherium laurillardi) and a mastodon, both excavated from a nearby fossil site, are mounted there. The fossiliferous layer where they originated exists 12 feet below ground near Reed Canal Park, and most of the fossils there are discovered by accident when construction crews bulldoze into the earth. The almost complete skeleton of the giant ground sloth was discovered during 1975, and the mastodon was discovered more recently by James Zacharias, the former curator of the Museum of Arts and Sciences.

Curiously, no scientific papers describe the site (as far as I can find), and there isn't much about it in the scientific literature. There are hundreds of fossil sites in Florida, and I suppose scientists think this is just another routine site in the state. Perhaps, there just aren't enough professional paleontologists to study all the sites in that state. I found just 1 scientific paper that even mentions the Daytona Beach Bone Beds. It's an article in the middle of a really obscure journal. The article describes the gompothere fossils found in Florida, and some of the specimens are from the Daytona Beach Bone Beds. Gompotheres were a relative of elephants and had a similar appearance. Unlike mastodons and mammoths, gompotheres did not have fur and were adapted to live in tropical climates. They looked more like African and Asian elephants than mammoths and mastodons did, though mammoths were more closely related to present day elephants than either gompotheres or mastodons were. Gompotheres expanded their range north during warm interglacials. The presence of Eremotherium and gompothere, both tropical species, suggests the fossils were deposited at this site about 130,000 years ago during the Sangamonian Interglacial. 3 different kinds of elephant-like animals plus giant ground sloths inhabited the region during the same time. How remarkable. The site is thought to have formerly been a large river mouth similar to the present day St. John's River. One newspaper reports over 50 species of mammals have been excavated from the site. From piecing together newspaper reports and information from the University of Florida Museum of Natural History database, I count 2 species of fish and 34 species of mammals. Here is the list. * denotes extinct species:

Atlantic croaker
spotted seatrout
least shrew
Carolina shrew
eastern mole
red bat
*giant ground sloth (Eremotherium)
*Harlan's ground sloth
*beautiful armadillo
*pampathere (a giant armadillo)
*glyptodont
*woodland vole (Microtus hibbardi)
Florida muskrat
cotton mouse
cotton rat
rice rat
woodrat
gopher
gray squirrel
southern flying squirrel
bog lemming
*capybara
cottontail rabbit
raccoon
bobcat
black bear
*Florida spectacled bear
bottlenose dolphin
*tapir
horse
*long-horned bison
*llama
white tailed deer
*gompothere
*mastodon
*mammoth

Reference:

Luoges, S; G. Morgan, J. Spielman, and D. Prothero
Neogene Mammals
New Mexico Museum of Natural History 44 2006
"Cuveronious (Mammalia: Proboscidea) from the Neogene of Florida"

Read the full article at:
https://markgelbart.wordpress.com/2021/02/18/the-daytona-beach-bone-beds-fossil-site/

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 options are listed to the right.

Meetings are usually held on the third Saturday of the month but may vary with club activities. Check the website for the date and location of the next meeting or call one of the officers.

Officers:

President	Salvatore Sansone	(321) 278-9294
Vice President 1	Steve Sharpe	(352) 552-2296
Vice President 2	Paul Hardin	
Secretary		
Treasurer	David Dunaway	(407) 786-8844

Chairs:

Field Trips	**OPEN**	
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
Membership	Ken Sellers	
Newsletter		
	Elise Cronin-Hurley	info@elisech.com
Photography	John Heinsen	(407) 291-7672
Facebook	Salvatore Sansone	
	Ken Sellers &	Paul Hardin
Webmaster	Elise Cronin-Hurley	info@elisech.com

Board of Directors:

	Marge Fantozi	
	Valerie First	
	Paul Hardin	
	Cindy Lockner	
	Ed Metrin	(407) 321-7462
	Ken Sellers	

Membership Application

MAIL in this form or Register ONLINE at
www.floridafossilhunters.com/membership

Names: _____

Associate Members: _____

_____

_____

_____

Address: _____

City: _____

State: _____ Zip: _____ Phone: _____

e-mail: _____

____ New ____ Renewal

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

_____

_____

Family membership: $25
Individual membership: $20

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 with Family Membership.

Membership year runs from January to December.

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: info@ floridafossilhunters.com. Articles can be sent as text in the e-mail or in Microsoft Word files (.doc or .docx).

Please note in subject of email 'FFH News: [article or info]

Florida Prehistorical Museum, Inc.
dba/ Florida Fossil Hunters

Florida Fossil Hunters Mark Your Calendar

See inside for more information on

2021 FFH Schedule

January 16th
February 20th: field trip
March 20th
April 10th : field trip
April 17th
May 15th
June: no meeting
July 17th
August 21st
September 18th
October: Fossil Fair
November 13th
December no meeting
(Holiday Party - date tba)

Mtgs held at the OSC Orlando Science Center, unless otherwise noted.

Next Mtg: March 20th
guest speaker John McIntosh (info pg 2)

April 10th: Field Trip
Yankeetown Field Trip (info pg 2)

Mtg: April 17th
guest speaker Aiden Rouse (info pg 2)

Mark Your Calendars for the 2021 Fossil Fair

Join Our Facebook group, Search:
Florida Fossil Hunters

facebook

Visit us online at www.floridafossilhunters.com

Email info@floridafossilhunters.com to share articles, comments and how to receive the newsletters by email.

Florida Fossil Hunters

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