Hello, Everyone.

Hope the summer’s heat hasn’t kept you inside. There’s still collecting at the beaches - it’s a great stress reliever having your mind focused on hunting while the sound of the surf sings to you. Or stand in the Peace and listen to the birds call.

Want to take time to thank those members who have donated their time and energy these last few months, to educate and excite people about fossils and the past: Valerie First, of course, who is at OSC and the Sanford Zoo almost every weekend. Salvatore Sansone, Rus Ahlgrim, Ken Sellers, Dave Dunaway, Ed Metrin, Joyce & Alex Bittle, & Kayla Warner for talking to folks about fossils at events such as OSC’s Prehistoric Party, OSC’s Science Night Live, Daytona Beach’s Natural History Festival, and more.

The Prehistoric Party also included old friends - Jimmy Waldron with a 3D printer making a skeleton, Harley Means from the FL Geological Society, Elaine Howard with her "Passion in the Bones" dinosaur exhibit. There were LOTS of enthusiastic children learning about the past and looking for shark teeth. We had a great time and thank our friends at the Orlando Science Center for hosting this wonderful event.

On October 19th & 20th, the Florida Fossils will have their annual Fossil Fair. Please volunteer and share in the fun, food, friends and fossils... all the best things in life!

See you there.
Russell Brown
President
Looking for volunteers to organize and lead the Kids' Fossil Blast, usually scheduled at 2pm before the regular meeting.

*Kids' Fossil Blast is an informal, hands-on experience with real fossils, casts, etc. aimed at kids ages 5 to 14.*

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**Trip Leader Needed!**
for Vulcan Mine
on Saturday, Nov. 9th.

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**Piece on the Peace**

Yippee!! The Peace River is low enough to dig and sift. Short people like me prefer to wait until it's 5 ft. at the Zolfo station, but 6 ft. is good enough for most folks to find some shallow areas to hunt for fossils.

Happy Hunting!

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**2019 Florida Fossil Hunters Fossil Fair**

**VOLUNTEER**

It’s that time of year to get together and see wonderful fossils and beautiful minerals and to talk to people who share your enthusiasm for the science of the earth and the life on it.

We hope you can join us for all the fun by volunteering some of your time, your extra fossils for the Kids’ Pit or the Silent Auction, and bringing some food to share with the volunteers and vendors.

This event raises the funds we need to pay for insurance to cover our members on private land such as Vulcan, the donation we make to the Florida Paleontological Society’s Morgan Award for grad students’ research and for the other expenses for our organization.

You can email Bonnie at bonnierussell62@gmail.com or just show up at the Fossil Fair to volunteer.
Illegal Digging
Harms Gainesville’s Urban Creeks

Due to recent concerns about unauthorized digging in Gainesville’s urban creeks, Alachua County is reminding residents that the County Water Quality Code prohibits digging in creeks and their banks throughout Alachua County. Individuals found violating the code could receive $125 citations and fines of up to $15,000 for repeat offenders. In addition, digging in any city nature park such as Loblolly Woods Nature Park or Alfred Ring Park is a violation of city ordinances.

__Alachua County bans fossil collecting in Gainesville creeks__

Digging in creeks and banks causes water pollution, harms fish and wildlife, leads to soil erosion and destabilization of creek banks, increases flooding, and damages property and public infrastructure.

Due to pollution levels in the creek, the Health Department, Alachua County, and the City of Gainesville do not encourage the use of Hogtown Creek and other urban creeks for public access. The Alachua County Environmental Protection Department monitors the urban creeks for fecal indicator bacteria and routinely finds levels that exceed allowable recreational water values. High levels of fecal indicator bacteria suggests water is being affected by leaking sewer pipes, septic systems, pet waste, or other sources of fecal contamination. If people get creek water into their mouths, nose, eyes, or into scratches or cuts, it can lead to sickness or infections called waterborne illnesses. Gastroenteritis (stomach bugs) is a common waterborne illness associated with bacteria and can sometimes be severe. Ear, nose and eye infections, itchy rashes, and respiratory discomfort are also possible. Children, the elderly, and those with compromised immune systems are always the most vulnerable.

Alachua County, the City of Gainesville, and the Health Department continue to work to reduce pollution in local waterways. To learn more about the County’s water quality and wetland protection codes, visit the Alachua County Water Resources website. To learn more about how you can prevent pollution, visit the Gainesville Clean Water Partnership’s website.

For more information or to report illegal activity, call 352-264-6800.
The last woolly mammoths lived on Wrangel Island in the Arctic Ocean; they died out 4,000 years ago within a very short time. An international research team from the Universities of Helsinki and Tübingen and the Russian Academy of Sciences has now reconstructed the scenario that could have led to the mammoths' extinction. The researchers believe a combination of isolated habitat and extreme weather events, and even the spread of prehistoric man may have sealed the ancient giants' fate. The study has been published in the latest edition of *Quaternary Science Reviews*.

During the last ice age -- some 100,000 to 15,000 years ago -- mammoths were widespread in the northern hemisphere from Spain to Alaska. Due to the global warming that began 15,000 years ago, their habitat in Northern Siberia and Alaska shrank. On Wrangel Island, some mammoths were cut off from the mainland by rising sea levels; that population survived another 7000 years.

The team of researchers from Finland, Germany and Russia examined the isotope compositions of carbon, nitrogen, sulfur and strontium from a large set of mammoth bones and teeth from Northern Siberia, Alaska, the Yukon, and Wrangel Island, ranging from 40,000 to 4,000 years in age. The aim was to document possible changes in the diet of the mammoths and their habitat and find evidence of a disturbance in their environment. The results showed that Wrangel Island mammoths' collagen carbon and nitrogen isotope compositions did not shift as the climate warmed up some 10,000 years ago. The values remained unchanged until the mammoths disappeared, seemingly from the midst of stable, favorable living conditions.

This result contrasts with the findings on woolly mammoths from the Ukrainian-Russian plains, which died out 15,000 years ago, and on the mammoths of St. Paul Island in Alaska, who disappeared 5,600 years ago. In both cases, the last representatives of these populations showed significant changes in their isotopic composition, indicating changes in their environment shortly before they became locally extinct.

Earlier aDNA studies indicate that the Wrangel Island mammoths suffered mutations affecting their fat metabolism. In this study, the team found an intriguing difference between the Wrangel Island mammoths and their ice age Siberian predecessors: the carbonate carbon isotope values indicated a difference in the fats and carbohydrates in the populations' diets. "We think this reflects the tendency of Siberian mammoths to rely on their reserves of fat to survive through the extremely harsh ice age winters, while Wrangell mammoths, living in milder conditions, simply didn't need to," says Dr. Laura Arppe from the Finnish Museum of Natural History Luomus, University of Helsinki, who led the team of researchers. The bones also contained levels of sulfur and strontium that suggested the weathering of bedrock intensified toward the end of the mammoth population's existence. This may have affected the quality of the mammoths' drinking water.

Why then did the last woolly mammoths disappear so suddenly? The researchers suspect that they died out due to short-term events. Extreme weather such as a rain-on-snow, i.e. an icing event could have covered the ground in a thick layer of ice, preventing the animals from finding enough food. That could have led to a dramatic population decline and eventually to extinction. "It's easy to imagine that the population, perhaps already weakened by genetic deterioration and drinking water quality issues could have succumbed after something like an extreme weather event," says professor Hervé Bocherens from the Senckenberg Center for Human Evolution and Palaeoenvironment at the University of Tübingen, a co-author of the study.

Another possible factor could have been the spread of humans. The earliest archaeological evidence of humans on Wrangel Island dates to just a few hundred years after the most recent mammoth bone. The chance of finding evidence that humans hunted Wrangel Island mammoths is very small. Yet a human contribution to the extinction cannot be ruled out.

The study shows how isolated small populations of large mammals are particularly at risk of extinction due to extreme environmental influences and human behavior. An important takeaway from this is that we can help preserve species by protecting the populations that are not isolated from one another.

*Courtesy of Science Daily*
Modern flamingoes employ filter feeding and their feces are, as a result, rich in remains of microscopically-small aquatic prey. Very similar contents are described from more than 150 million year old pterosaur droppings in a recent paper in PeerJ. This represents the first direct evidence of filter-feeding in Late Jurassic pterosaurs and demonstrates that their diet and feeding environment were similar to those of modern flamingoes.

Pterosaurs were a diverse group of flying reptiles that roamed the skies during the age of dinosaurs. Skeletal fossils suggest that they, just like modern birds, adapted to diverse lifestyles and feeding habits. Direct evidence on diets such as gut contents, however, are rare and only known from a few pterosaur species.

Coprolites, that is fossil droppings, are surprisingly common fossils and they potentially hold valuable information on the diet of extinct animals. Unfortunately, it is often difficult to know which animal produced which dropping.

In a recent paper, researchers from Uppsala University and the Polish Academy of Sciences describe the contents of three coprolites collected from a surface with abundant pterosaur footprints in the Wierzbica Quarry in Poland. The coprolites' size, shape and association to the tracks suggest that they were produced by pterosaurs, most probably belonging to a group called Ctenochasmatidae.

The fossil droppings were scanned using synchrotron microtomography, which works in a similar way to a CT-scanner in a hospital but with much stronger x-ray beams. This makes it possible to image the contents of fossils in three dimensions. The scans of the pterosaur coprolites revealed many microscopic food remains including foraminifera (small amoeboid protists with external shells), small shells of marine invertebrates and possible remains of polychaete worms.

"A reasonable explanation for how a pterosaur big enough to have produced the droppings ingested such small prey is through filter feeding," says Martin Qvarnström, PhD student at Uppsala University and one of the authors of the article.

Some ctenochasmid pterosaurs are thought to have been filter feeders. Pterodaustro, which comes from the Cretaceous and is thus slightly younger than the Polish coprolites, possessed a sieving basket consisting of many long, thin teeth and was certainly a filter feeder. Older ctenochasms did not possess such an obvious sieving basket, but some had elongated snouts with many slender teeth, also interpreted as adaptations for filter feeding. These pterosaurs were around at the time the droppings were made, and as the footprints from the site have also been attributed to ctenochasmids it is likely that such pterosaurs produced both the droppings and the footprints.

The modern Chilean flamingo, which is a filter feeder, can produce droppings full of foraminifera when feeding in coastal wetlands.

"The similar contents of the droppings of these flamingos and the pterosaur coprolites could be explained by similar feeding environments and mesh sizes of the filter-feeding apparatus. It appears therefore that the pterosaurs which produced the footprints and droppings found in Poland were indeed the flamingos of the Late Jurassic," says Martin Qvarnström.

"Why do paleontologists study fossil poop? Filter-feeding pterosaurs were the flamingos of the Late Jurassic"
VULCAN MINE Field Trip

Vulcan Mine near Brooksville

FIELD TRIP LEADERS

Saturday, Oct 12th & Nov 9th
October 12th Trip Leader: Mark Voke, call him at 407-341-2481 or mark@autopro4u.com
Nov 9th TRIP LEADER: NEEDED

MUST HAVE PAID YOUR 2019 DUES (you can bring a $17 check with you)

This is one of the few places where kids are allowed in to fossil hunt. Be sure to stay with them since there are steep cliffs, sharp rocks, and small sinkholes.

Meet on the driveway loop near the entrance to the Mine by 8:30 am to sign releases before we are escorted into the mine around 9 am. We get to drive our vehicles in so you can have your coolers, snacks, and equipment handy while you hunt. They usually allow us to dig until noon and sometimes people can stay till 2 pm.

ALL PARTICIPANTS MUST

MUST BE ESCORTED INTO AND OUT OF THE MINE. NO EXCEPTIONS. IF YOU ARE LATE, YOU DO NOT GET IN.

THERE ARE NO RESTROOM FACILITIES AT VULCAN MINE, other than the boulders and the hills.

Directions: The trip will take approximately 2 hours from Orlando to Vulcan Mine. Be sure to allow for extra time to stop at a restroom before you get there.

From Orlando take Hwy. 50 west (or the 408 west to the FL Turnpike, take exit 272 and then continue west on Hwy. 50) to Brooksville. Follow 50A/98 North through Brooksville and turn right on Ponce De Leon Blvd. (Hwy 98 North). Go approximately 10 miles. Vulcan/Cemex will be on your left. The address is 16313 Ponce De Leon Blvd, Brooksville, for those of you who want to download a map.

If you follow the truck route for Hwy. 50, you have to turn right onto 41, and then take the fork to the left to hook up with Ponce De Leon Blvd/98. There are several fast food places on 41 where you can take advantage of the bathroom facilities. Be sure NOT to keep following 41 north. You want to take 98 north from Brooksville.

This is mostly surface collecting with occasionally a little digging to pry out a specimen. Bring a small trowel or screwdriver or rock hammer, and a bucket to put your fossils and rocks into. You may want to bring small containers and tissue for fragile fossils.

Wear a hat, sturdy shoes, long pants (some of the rocks are sharp), and sunscreen. Bring lots of water and/or drinks and some snacks or lunch to eat.

We find mostly echinoids and sometimes sea urchins, pieces of bone, or other fossils are found. We also find chert rocks. This is the material that the Indians used to make their arrowheads and tools.

ID Sheet above is available on the field trip and website.
floridafossilhunters.com/Field_Trips.htm

TRIPS

OCT 12 & NOV 9

You MUST be a member of the club for insurance purposes to participate in this field trip.

MUST have paid your 2019 dues (you can bring a $17 check with you)
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 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 Russell Brown (352) 429-1058
Vice President 1 Steve Sharpe (352) 552-2296
Vice President 2 Salvatore Sansone
Secretary Bonnie Cronin (352) 429-1058
Treasurer Sara Morey (619) 302-4863

Chairs:
Education Bonnie Cronin (352) 429-1058
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 Bonnie Cronin (352) 429-1058
Newsletter Bonnie Cronin (352) 429-1058
Photography John Heinsen (407) 291-7672
Facebook Salvatore Sansone
Ken Sellers
Webmaster Elise Cronin-Hurley (407) 929-6297
elise@liseydreams.com

Board of Directors:
Ed Metrin (407) 321-7462
Marge Fantozzi
Cindy Lockner
Dave Dunaway
Salvatore Sansone
Ken Sellers

Membership Application

Names: ________________________________________
Associate Members: ______________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
Address: ________________________________________
City: ____________________________________________
State: _____ Zip: ___________ Phone: ________________
e-mail: __________________________________________

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

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.

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: bonnierussell62@gmail.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’.

Florida Prehistorical Museum, Inc.

Florida Fossil Hunters News

Volume 29, Number 3 - OCT/NOV 2019

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FFH Fossil Fair
Sat., Oct. 19, 9 am - 5 pm
Sun., Oct. 20, 10am - 4 pm
Central FL Fairgrounds, Orlando

National Fossil Day Celebration
Sat., Oct. 19th 10 am - 5 pm
Bishop Museum of Science & Nature
Bradenton

Vulcan Field Trip
Sat., Nov. 9th
Need Leader

FFH Meeting
Sat. Nov. 16th 3 pm - 5 pm
Orlando Science Center

See inside for more information on events.

Be Green
Email Bonnie at bonnierussell62@gmail.com
to receive the newsletter via email.

Visit us online at www.floridafossilhunters.com
Articles and comments should be sent to: bonnierussell62@gmail.com

Florida Fossil Hunters
Post Office Box 540404
Orlando, Florida 32854-0404
2019 FOSSIL FAIR

Twenty-eighth Annual

Fossils, Rocks,
Gems & Minerals

Saturday, October 19, 2019
9:00am - 5:00pm
Sunday, October 20, 2019
10:00am - 4:00pm

Central Florida Fairgrounds
4603 West Colonial Drive, Orlando, Florida 32808

$4.00 Adults | $1.00 Children

Learn to dig in Florida and see what can be discovered!

Directions:
I-4 to Orlando, Exit 84, West Hwy 50/Colonial Drive exit Westbound.
The fairgrounds will be on the right side, just past Mercy Drive.

For more information on the 2019 Fossil Fair contact us by email at info@floridafossilhunters.com, call 407-699-9274, or check the website at www.floridafossilhunters.com

Raffles
Vendors
Silent Auctions
Kids Dig Pit $1
Educational Displays
Airconditioned! INDOORS!