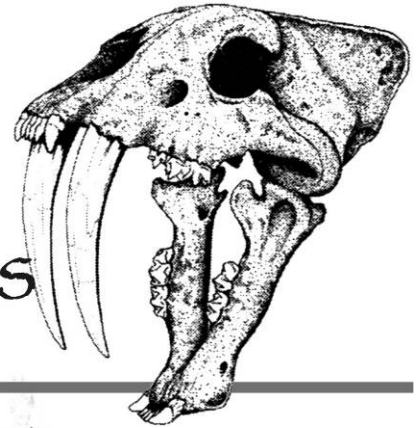


# NEWS

## Florida Fossil Hunters



Volume 20, Number 3

March 2010

### Prez Sez

Thanks to the many volunteers who showed their support and shared their knowledge at Fossil Fest this year. We served over 1200 guests, and surpassed our numbers from last year!

We are continuing work on the new fossil hunter's guidebook. I've seen the early drafts, and it contains some spectacular resources and techniques that will have you digging up new fossils faster than ever! You'll want to start making up aliases for all the fossil permits you're going to need!

Our next official meeting will be on March 20<sup>th</sup> at 2:00 pm, in the Founder's Room at Orlando Science Center (3<sup>rd</sup> Floor.) This will be the first of our "Adult Blasts" with new speakers and workshops that you've been asking for! We are very glad to welcome Mr. Alex Kittle, Curatorial Assistant of Invertebrate Paleontology, and Mr. Roger Portell, Collections Manager of Invertebrate Paleontology. Both Mr. Kittle and Mr. Portell are with us from the Florida Museum of Natural History in Gainesville.

We will also conduct a short workshop activity-Introduction to PaleoArt. We'll take a look at how paleontology draws together science and art to produce imaginative and accurate reconstructions of prehistoric animals. From the late 1800's, and the work of Charles R. Knight, through the modern era of Art's Beasts in a Bottle, and Computer Graphic Imaging. Many tools and materials will be provided, but please bring the following:

#### **Tools:**

Pliers  
Wire Cutter  
Hair dryer

#### **Materials:**

Wire Hanger  
Air-Dry Clay (1 lb)  
Dryer lint

And, a good picture of your favorite prehistoric animal

*Hope to see you soon!*

Jimmy Waldron, President, Florida Fossil Hunters.com

## NEXT MTG

MARCH 20th  
Orlando Science Center

## VULCAN MINE

MARCH 12th  
See page 2 for details.

### Coming Events

#### MEETINGS SATURDAY

at the Orlando Science Center

**March 20, 2010**

3:00pm Meeting

**April 17, 2010**

2:00pm Kids' Fossil Blast

3:00pm Meeting

**March 15, 2010**

3:00pm Meeting

*For more info...*

[www.floridafossilhunter.com](http://www.floridafossilhunter.com)

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# Florida Fossil Hunters News

# Fragments

## **Piece on the Peace**

The good thing about winter rains is that the fire danger is lower. The bad part is that the river's level doesn't go down much. As of the beginning of March we're looking at a depth of about 6 ft. at the Zolfo station. You can dig but the flow will be stronger and the places shallow enough to stand will be fewer. We can only hope that it will subside soon.



Be sure to use our link and check the level before you mount your next Peace River expedition.

## **Tampa Bay Fossilfest 2010**

The Tampa Bay Fossil Club will be holding its annual fossil fair on Saturday, March 20th from 9 am to 6 pm and on Sunday, March 21st from 10 am to 4 pm. There will be fossils, shells, minerals, exhibits, kids' activities, silent auctions and door prizes.

It will be held at the Florida State Fairgrounds near the intersection of US 301 and I-4, just east of Tampa. There is a fee for parking, \$4 or \$5.

## **Venice Shark Tooth Festival**

This year's Festival will be held on April 9th through April 11th. The hours are: Friday, 4 pm to 9 pm; Saturday, 10 am to 9 pm; Sunday, 10 am to 5 pm. The cost is \$3 per person. Kids under 12 can get in free.

There will be lots of shark teeth, as well as fossil vendors. There will also be arts and crafts vendors and a Food Court. Entertainment will be provided by live bands and special activities for the kids.

It's being held at the Venice Municipal Airport Festival Grounds. Directions: Take I-75 south to exit 193. Turn right on Jacaranda Blvd. Turn right onto Center Rd. and go 2.5 mi. Cross over the bypass then turn right onto Tamiami Tr. After crossing the bridge, turn left onto Avenida del Circo. Turn left onto Airport Ave. and follow the signs to the festival grounds.

# Kids' Fossil Blast

The Proboscian Evolution talks at the Orlando Science Center's Fossilfest drew a lot of interest from kids and adults alike. One interesting fact I discovered was that the earliest ancestor found so far is the Phosphatherium. The fossil is dated to about 56 million years ago in the Paleocene and was akin to a dog-sized hippopotamus. The Mueritherium, from the Eocene, was previously cited as the earliest ancestor but has since been determined to be a side shoot on the elephant's family tree.

At the next Fossil Blast on Saturday, April 17th at 2 pm, we will investigate how things are preserved in amber and examine some samples.

## **Plate Movements Can Be Good**

Did you know that the oldest oceanic crusts in the existing seas only date from about 145 million years ago? This is because the heavy oceanic crust is subducted into the Earth's mantle at plate boundaries. Although the process of one tectonic plate being pushed up by another can be catastrophic, it's a good thing for those who study fossils. Ancient fossils of creatures that once lived in the seas have been found on top of the Himalayas, in the Canadian mountain ranges, and in the Alps, as well on other continental sites. These fossils from the deep time have given us great insight into the evolution of life on earth. Without the portions of ancient seabeds now on top of continental plates, we would have no knowledge of the life that existed before life ventured out onto the land.

## **Ancient Mariners**

Acheulean style stone tools have been found on the island of Crete. This stone making culture started with Homo Erectus and was used for hundreds of thousands of years. This offers proof that early man did indeed travel by boat. It's really not hard to believe once you've seen the film clip of the orangutan paddling herself and her baby in a rowboat in a sanctuary in Borneo. It's no great intellectual leap from watching trees float in the water with animals aboard to figuring out how to lash them together to travel across expanses of water. The first Australians (50,000 yrs. ago) were just using tried and true technology.

## **Got questions? We'll have answers.**

Our speaker, Alex Kittle, and Roger Portell from the Invertebrate Paleontology Dept. at the Florida Museum of Natural History have volunteered to help ID fossil shells, crabs or echinoids. So bring those fossils that have been puzzling you to the March meeting.

**See page 7 for more info...**

## Meetings and Goals

### V.P. Report

Last month's Fossilfest Four was by far the busiest Orlando Science Center's fossil education day yet. I would have liked to thank each of our volunteers that helped make it a huge success but, like everyone else there, my time was filled getting the word out about fossils and our club. Over a thousand visitors came through and we would have been totally overwhelmed without each and every of you volunteers.

I know that there was some confusion whether we were having a regular meeting during this event. I apologize for any inconvenience to members who came expecting to have the usual meeting. (Note from the newsletter editor: always check the newsletter for information about the meetings)

The Fossilfest at the Science Center is similar to the Florida Fossil Hunters' Education Day we used to have in years past for schoolchildren before our annual Fossil Fair. In spite of the extra set-ups and stretching our volunteers even more, we were enthusiastic about reaching more of the public with the fossil information. Unfortunately, we had to discontinue it when we started getting charged for the extra day. The Fossilfest at the Science Center gives us an opportunity to share fossil knowledge once again.

I've been giving a lot of thought about where our club started, what it's been through, and where it's going now. At the next Board meeting, I will be laying out a new and different way for our club to not only reach the goals of the founders, but hopefully settle some the recent issues regarding when and where to meet. Check your newsletters in the next few months as details are revealed about changes to be implemented.

Fossilfest will become a larger part of our club as a regular part of our yearly events. Just as our Fossil Fair is important to our club, so should be an educational event such as the Fossilfest. If ever we need our members to come out and show support, it is at these types of events. Not only do we all get the opportunity to share knowledge but having more volunteers makes it more enjoyable for everyone.

I hope I don't sound like someone standing on a soapbox on a corner somewhere but as an officer of your club, I'm trying to keep you informed and doing the best that I can to move us closer to to the goals of our organization.

Sincerely,  
Russell Brown

## VULCAN MINE FIELD TRIPS

Join us in fossil hunting at the Vulcan Mine near Brooksville on Saturday, March 13th. Meet us in the circle driveway by 8:30 am to sign releases. They will escort us in around 9 am. Groups will be escorted out at noon and 2 pm for those that want to stay longer.

Trip leader for this month is John Jelks. You can reach him at 407-568-5558 or email him at [john.jelks@gmail.com](mailto:john.jelks@gmail.com)

*For insurance purposes, you **MUST be a member** of the Florida Fossil Hunters to join us on the field trips.*

**NO EXCEPTIONS.** Meet on the driveway loop near the entrance to Vulcan Mine by 8:30 am to sign releases before we are led into the mine.

**Directions:** From Orlando take Hwy. 50 west to Brooksville. Turn right onto US 98 north and go approximately 10 miles. Vulcan Mine is on the left (west) side of 98 and the address is 16313 Ponce De Leon Blvd.

This is mostly surface collecting with a little digging. Bring a small trowel or rock hammer or screwdriver to pry out specimens and bring a bucket to collect. Bring small containers and paper towels/toilet paper to store fragile fossils.

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

We find mostly echinoids. Sometimes sea urchins, pieces of bone, and shark teeth are found. We also find chert rock. This is the material that the Indians used to make arrowheads and tools. This is one of the few places where kids are allowed in to fossil hunt. Be sure to stay with them since this is a working mine and there are steep cliffs and small sinkholes as well.

**ALL PARTICIPANTS MUST BE ESCORTED OUT OF THE MINE. YOU CAN NOT LEAVE ON YOUR OWN SINCE IT IS EASY TO BECOME LOST AND THEY DO NOT WANT FOLKS WANDERING AROUND THE MINE WHILE THEY ARE WORKING.**

# Bird-from-Dinosaur Theory of Evolution Challenged: Was It the Other Way Around?

*ScienceDaily (Feb. 10, 2010) — A new study just published in the Proceedings of the National Academy of Sciences provides yet more evidence that birds did not descend from ground-dwelling theropod dinosaurs, experts say, and continues to challenge decades of accepted theories about the evolution of flight.*

A new analysis was done of an unusual fossil specimen discovered in 2003 called "microraptor," in which three-dimensional models were used to study its possible flight potential, and it concluded this small, feathered species must have been a "glider" that came down from trees. The research is well done and consistent with a string of studies in recent years that pose increasing challenge to the birds-from-dinosaurs theory, said John Ruben, a professor of zoology at Oregon State University who authored a commentary in *PNAS* on the new research.

The weight of the evidence is now suggesting that not only did birds not descend from dinosaurs, Ruben said, but that some species now believed to be dinosaurs may have descended from birds.

"We're finally breaking out of the conventional wisdom of the last 20 years, which insisted that birds evolved from dinosaurs and that the debate is all over and done with," Ruben said. "This issue isn't resolved at all. There are just too many inconsistencies with the idea that birds had dinosaur ancestors, and this newest study adds to that."

Almost 20 years of research at OSU on the morphology of birds and dinosaurs, along with other studies and the newest *PNAS* research, Ruben said, are actually much more consistent with a different premise -- that birds may have had an ancient common ancestor with dinosaurs, but they evolved separately on their own path, and after millions of years of separate evolution birds also gave rise to the raptors. Small animals such as velociraptor that have generally been thought to be dinosaurs are more likely flightless birds, he said.

"Raptors look quite a bit like dinosaurs but they have



*This is a life-sized reconstruction of the moment just before preservation. The scales and patterning of Sanajeh's skin is based on modern relatives of the fossil snake. The hatchling dinosaur is reconstructed from known skeletal materials, but its color is conjectural. The eggs are based directly on the fossils. (Credit: Sculpture by Tyler Keillor and original photography by Ximena Erickson; image modified by Bonnie Miljour)*

much more in common with birds than they do with other theropod dinosaurs such as Tyrannosaurus," Ruben said. "We think the evidence is finally showing that these animals which are usually considered dinosaurs were actually descended from birds, not the other way around."

Another study last year from Florida State University raised similar doubts, Ruben said.

In the newest *PNAS* study, scientists examined a remarkable fossil specimen that had feathers on all four limbs, somewhat resembling a bi-plane. Glide tests based on its structure concluded it would not have been practical for it to have flown from the ground up, but it could have glided from the trees down, somewhat like a modern-day flying squirrel. Many researchers have long believed that gliders such as this were the ancestors of modern birds.

*Continued on page 5*

### ***Bird-from-Dinosaur Theory of Evolution Challenged Continued on page 5***

"This model was not consistent with successful flight from the ground up, and that makes it pretty difficult to make a case for a ground-dwelling theropod dinosaur to have developed wings and flown away," Ruben said. "On the other hand, it would have been quite possible for birds to have evolved and then, at some point, have various species lose their flight capabilities and become ground-dwelling, flightless animals -- the raptors. This may be hugely upsetting to a lot of people, but it makes perfect sense."

In their own research, including one study just last year in the *Journal of Morphology*, OSU scientists found that the position of the thigh bone and muscles in birds is critical to their ability to have adequate lung capacity for sustained long-distance flight, a fundamental aspect of bird biology. Theropod dinosaurs did not share this feature. Other morphological features have also been

identified that are inconsistent with a bird-from-dinosaur theory. And perhaps most significant, birds were already found in the fossil record before the elaboration of the dinosaurs they supposedly descended from. That would be consistent with raptors descending from birds, Ruben said, but not the reverse.

OSU research on avian biology and physiology has been raising questions on this issue since the 1990s, often in isolation. More scientists and other studies are now challenging the same premise, Ruben said. The old theories were popular, had public appeal and "many people saw what they wanted to see" instead of carefully interpreting the data, he said.

"Pesky new fossils...sharply at odds with conventional wisdom never seem to cease popping up," Ruben wrote in his *PNAS* commentary. "Given the vagaries of the fossil record, current notions of near resolution of many of the most basic questions about long-extinct forms should probably be regarded with caution."

## 'Anaconda' Meets 'Jurassic Park': Fossil Snake from India Fed on Hatchling Dinosaurs

*ScienceDaily (Mar. 2, 2010) — The remains of an extraordinary fossil unearthed in 67-million-year-old sediments from Gujarat, western India provide a rare glimpse at an unusual feeding behavior in ancient snakes.*

An international paleontological team led by the University of Michigan's Jeff Wilson and the Geological Survey of India's Dhananjay Mohabey will publish their discovery online March 2 in the open-access journal *PLoS Biology*.

The remains of a nearly complete snake were found preserved in the nest of a sauropod dinosaur, adults of which are the largest animals known to have walked the earth. The snake was coiled around a recently hatched egg adjacent to a hatchling sauropod. Remains of other snake individuals associated with egg clutches at the same site indicate that the newly described snake made its living feeding on young dinosaurs.

"It was such a thrill to discover such a portentous moment frozen in time," said Mohabey, who made the initial discovery in the early 1980s.

Working with the sediment-covered and inscrutable specimen in 1987, Mohabey recognized dinosaur eggshell and limb bones but was unable to fully interpret the specimen. In 2001, Wilson visited Mohabey at his office at the Geological Survey of India and was astonished when he examined the specimen.



*An image drawn in 1915 by naturalist William Beebe suggests a hypothetical view of what early birds may have looked like, gliding down from trees - and it bears a striking similarity to a fossil discovered in 2003 that is raising new doubts about whether birds descended from ground-dwelling theropod dinosaurs.*

***Continued on page 7***

## March Presentation: Paleobotany in North Dakota

Alex Kittle is a curatorial assistant in the Invertebrate Paleontology Division (IP) at the Florida Museum of Natural History. His duties include collection, preparation, and identification of Fossils Invertebrates from Florida and throughout the southeast. Alex graduated from Georgia College where he received a bachelor's and master's degree in biology. His research involved the description of a new Paleocene fossil flora from western North Dakota that he discovered in 2005. He also has field experience collecting for the National Park Service in Badlands National Park and Grand Teton National Park. In the summer of 2007, Alex spent time as an intern for Ashfall State Park in Nebraska; he served as an interpreter for park guests and gave demonstrations in fossil excavation and preparation. This past summer he assisted.

His presentation for the Florida Fossil Hunters will be on his paleobotany experiences in North Dakota. It will include some of his findings from this new and unique locality that represents the only compression flora from the region. He will also compare this site to other well known floras from the midcontinent.

Alex will also be accompanied by Roger Portell, Collection Manager for IP. They are very interested to see what members have been finding in their fossil adventures. Please feel free to bring Florida fossil mollusks, crabs, and echinoids for them to identify. Time to play stump the paleontologist.

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### **'Anaconda' Meets 'Jurassic Park', Continued from page 5**

"I saw the characteristic vertebral locking mechanism of snakes alongside dinosaur eggshell and larger bones, and I knew it was an extraordinary specimen---but I also knew we needed to develop it further," Wilson said.

From that point began a decade-long odyssey that led to a formal agreement with the Government of India Ministry of Mines in 2004 that allowed preparation and study of the fossil at the U-M Museum of Paleontology, weeks of museum study in India, and field reconnaissance at the original locality in Gujarat by a team that included Wilson, Mohabey, snake expert Jason Head of the University of Toronto-Mississauga, and geologist Shanan Peters of the University of Wisconsin. The field research was funded by the National Geographic Society.

Preparation of the fossil at the U-M revealed the snake was coiled around a crushed dinosaur egg next to a freshly hatched sauropod dinosaur.

"We think that the hatchling had just exited its egg, and that activity attracted the snake," said Mohabey. "The eggs were lain in the loose sands near a small drainage and covered by a thin layer of sediment."

The arrangement of the bones and delicate structures, such as eggshells and the snake's skull, point to quick entombment.

"Sedimentation was unusually rapid and deep for this formation---a pulse of sand, probably mobilized during a storm, resulted in the preservation of this spectacular association," said Peters, who interpreted the paleoenvironment of the site.

The new snake, which was named *Sanajeh indicus* or "ancient-gaped one from the Indian subcontinent," because of its lizard-like gape, adds critical information that helps resolve the early diversification of snakes. Modern large-mouthed snakes are able to eat large prey because they have mobile skulls and wide gapes. *Sanajeh* bears only some of the traits of modern large-mouthed snakes and provides insight into how they evolved.

"*Sanajeh* was capable of ingesting the half meter-long sauropod hatchling because it was quite large itself, almost 3.5 meters long," Head said. "This points to an interesting evolutionary strategy for primitive snakes to eat large prey by increasing their body size."

Although the sauropod dinosaurs that *Sanajeh* preyed upon include the largest animals capable of walking on land, they began their life as small hatchlings that were about one-seventh the length of *Sanajeh*. Sauropods appear to have achieved their enormous size by virtue of a fast-growth phase, which would have kept them out of danger from *Sanajeh*-sized predators by the end of their first year of life.

This discovery of *Sanajeh* adds to a growing body of evidence suggesting that the Indian subcontinent retained ties to southern landmasses for longer than once hypothesized. *Sanajeh*'s closest relatives are from Australia and speak to its strong ties to southern continents, collectively known as Gondwana.

A life-sized flesh reconstruction of the scene immediately before burial was designed and executed by University of Chicago paleoartist Tyler Keillor. The team will donate the first cast to the Geological Survey of India at a formal function to be held in Mumbai, India, on March 12, 2010.

# 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
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Newsletter	Bonnie Cronin	(352) 429-1058
	Elise Cronin-Hurley	(407) 929-6297
Photography	John Heinsen	(407) 291-7672
Webmaster	Elise Cronin-Hurley	(407) 929-6297
	elise@liseydreams.com	

**Board of**

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Russell Brown	(352) 429-1058
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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).

# Florida Fossil Hunters Mark Your Calendar

**March 13:** Vulcan Field Trip

**March 20**

3:00pm Club Meeting

**March 20 & 21**

Tampa Bay Fossil Fest

**April 9, 10 & 11**

Venice Shark Tooth Festival

**April 17**

2:00 Kids Fossil Blast

3:00pm Club Meeting

**See page 2 for more information  
on events.**

**STAY ON THE MAILING  
LIST RENEW YOUR  
MEMBERSHIP TODAY**

## Be Green

We are *emailing* the newsletter each month. If you want to participate, just email Bonnie at [bjrb48@netzero.com](mailto: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.



See page 2 for more information on events.

Visit us online at [www.floridafossilhunters.com](http://www.floridafossilhunters.com)

Articles and comments should be sent to: [elise@liseydreams.com](mailto:elise@liseydreams.com)

Florida Fossil Hunters

Post Office Box 540404

Orlando, Florida 32854-040



Florida Fossil Hunters News