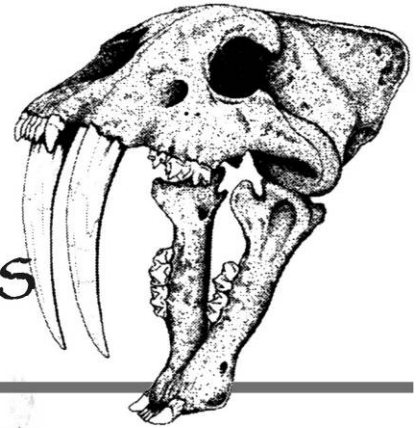


NEWS

Florida Fossil Hunters

Volume 20, Number 1

January 2010



Prez Sez

Happy New Year! Welcome to the next chapter of the Neogene period! (Subatlantic, of course)

Our next meeting will be on January 16th at 3:00 pm, in the Founder's Room at Orlando Science Center. I recommend that we pack lightly, as the Science Center will have their annual video game event the same weekend, and while we still have the room, we may have to deal with some Wookiees in the hallways. Let me know if you'd like to have an educational display at February's Fossil Fest Four! February 20th, 2010 from 11:00 – 4:00!

We're in a new decade, rife with new opportunities and new challenges to meet head on. As your President, I am making it my goal to turn 2010 into the most prosperous and ambitious year for the Florida Fossil Hunters. This is not an easy task. As our nation continues to steadily climb out of its own economic turmoil, ordinary Americans, friends and neighbors, are reaching out to help each other on the road to recovery. And though the day to day needs of a modest group of paleontologists and enthusiasts may seem trifling in these times, we must remember that we share common goals and interests. We must remember the joys we find through our own hard work and determination, even for something as small as a shark's tooth, in which we find great meaning.

So I turn now to you. Imagine for yourself, what kinds of goals and dreams you'd like to realize with the Florida Fossil Hunters this year? Is there a personal paleo hero whom you would like to meet? A special expedition you'd like to embark upon to find that bone that got away? Or maybe your hopes are more humble, and easier to realize-though no less meaningful. This year, I would like to know what hopes you have for your Fossil Hunters this year. Reach out to me via e-mail, or bring your suggestions to the next few meetings. The board and I will be working hard to reach out to our fellow organizations in the coming year, and trying any possible means to make your wishes and your dreams a reality.

Hope to see you soon!

Jimmy Waldron
President, Florida Fossil Hunters.com

NEXT MTG
JANUARY 16th
Orlando Science Center

Orlando Science Center
FOSSIL FEST
02-20-10
See page 2 for details.

Coming Events

MEETINGS SATURDAY

at the Orlando Science Center

January 16, 2010

3:00pm Meeting

February 20, 2010

2:00pm Kids Blast

3:00pm Meeting

March 20, 2010

3:00pm Meeting

For more info...

www.floridafossilhunter.com

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Fragments

Piece on the Peace

The Peace River depth graph of the last month looks like a diagram for a roller coaster. It hit over 10 ft. since the last newsletter and has gone down and up and down several times in response to the rains. It now is now under 6 ft.



Russell and I grabbed the opportunity of a warm day and low depth recently to go fossil hunting. You'll be glad to hear that the river has shifted things around and there are new fossils to be found. All we need now is another warm spell.

Tomoka Gem & Mineral Show

The Tomoka Gem & Mineral Society will hold their annual show on January 16th and 17th. The hours on Saturday will be 10 am to 6 pm and Sunday from 10 am to 5 pm. Admission is \$4; kids 12 and under can get in free. It will be held at the Volusia County Fairgrounds on SR 44 near Deland.

For more info go to their website: www.tomokagms.org or email Florence Nordquist at fnldesign@aol.com or call her at 386-226-4032.

Tampa Bay Fossilfest

Mark your 2010 calendars. It will take place on March 20th and 21st. More details in the coming months.

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.



TIME TO RENEW

your Florida Fossil Hunters 2010 Membership.

It's That Time

It's time to renew your membership. The cost is still only \$17 for a household.

Please use one of the forms...either online or in the newsletter...so we can make sure we have your correct address and/or email.

Thank you to all of you who have signed up to get your news online. This has saved the club a good amount of money and has helped keep our operating costs down.

Kids' Fossil Blast



The next Fossil Blast will be on February 20th. Since we'll all be taking part in the Orlando Science Center's Fossilfest on that day, the kids' program will be held each hour from 12 noon to 3 pm. We'll be exploring how the mammoths and all their cousins evolved.

Big Snake Makes the List

The discovery made by University of Florida researchers of the world's biggest snake made Time's "Top Ten New Species" list of 2009. Titanoboa cerrejonensis was 45 ft. or more in length and weighed more than a ton. Luckily it went extinct nearly 60 million years ago. The fossils were found in an open pit coal mine in Columbia where the UF fossil researchers have been collecting.

Ardi, the earliest human ancestor fossil found to date, made the "Top Ten Scientific Discoveries" list.

The Last Mammoths in Alaska

Based on fossil bones, it has been thought that the last of the mammoths and horses in North America died out around 13,000 to 15,000 years ago. But recently researchers from Denmark, Australia and Alberta, Canada came up with a new method to date the last of the Megabeasts.

They took core samples of the undisturbed permafrost at a site in Alaska and tested for horse and mammoth DNA. They then used two different methods of dating the soil samples to verify the age of the layers.

They discovered there were still horses and mammoths as recently as 7,600 years ago. This opens up many more possible reasons for the Megabeast extinctions since they would have died off gradually rather than the sudden, cataclysmic scenario we previously believed.

For more on this research, check out: www.sciencedaily.com/releases/2009/12/091214151946.htm



Orlando Science Center Presents: February Fossil Fest

The annual Fossilfest will be held on Saturday, February 20th from 11 am to 4 pm. Since this falls on our scheduled meeting day, the club will be taking this great opportunity to share our knowledge of fossils with the public and acquainting them with Florida Fossil Hunters in lieu of a standard meeting.

All members are encouraged to participate by bringing in your favorite fossils to show folks and talk about your fossil hunting and collecting experiences or by volunteering at the membership table. If any of you would like to hold demonstrations of fossil prep techniques or ID skills or any other activity, that would be very welcome, too.

I still remember the thrill of discovering the club and all you wonderful people who share the same interests in fossils, minerals, geology and Florida's history. There are still people out there with the same passion just looking for a group like ours.

Let's reach out and welcome these people into our club and ignite some curiosity in them.

To reserve a table ...or part of one, email Jimmy at jwaldron@osc.org or call and leave a message for him at 407-514-2163.

Ancient Origins of Modern Opossum Revealed

ScienceDaily (Dec. 17, 2009) — A University of Florida researcher has co-authored a study tracing the evolution of the modern opossum back to the extinction of the dinosaurs and finding evidence to support North America as the center of origin for all living marsupials.

The study, to be published in *PLoS One* on Dec. 16, shows that peradectids, a family of marsupials known from fossils mostly found in North America and Eurasia, are a sister group of all living opossums. The findings are based in part on high-resolution CT scans of a 55-million-year-old skull found in freshwater limestone from the Bighorn Basin of Wyoming.

"The extinction of the dinosaurs was a pivotal moment in the evolution of mammals," said Jonathan Bloch, study co-author and associate curator of vertebrate paleontology at UF's Florida Museum of Natural History. "We're tracing the beginnings of a major group of mammals that began in North America."

Opossum-like peradectids first appeared on the continent about 65 million years ago, at the time of the Cretaceous-Paleogene extinction event, which killed the dinosaurs.

"North America is a critical area for understanding marsupial and opossum origins because of its extensive and varied fossil record," said lead author Inés Horovitz, an assistant adjunct professor at the University of California, Los Angeles. "Unfortunately, most of its species are known only from teeth."

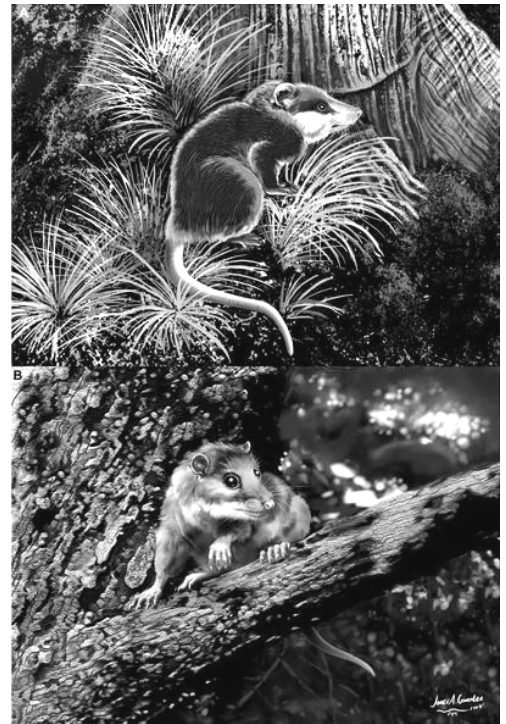
The study also analyzes two 30-million-year-old skeletons of Herpetheriidae, the sister group of all living marsupials.

Based on fossil evidence from the skull and two skeletons, the study's authors concluded the evolutionary split between the ancestor of opossums and the ancestor of all other living marsupials occurred at least 65 million years ago, Horovitz said.

Marsupials migrated between North and South America until the two continents separated after the end of the Cretaceous period. Marsupials in South America diversified and also migrated into Antarctica and Australia, which were still connected at that time, Bloch said.

North American marsupials went extinct during the early Miocene, about 20 million years ago. But after the Isth-

Restorations of (A) *Herpetotherium* and (B) *Mimoperadectes*. (Credit: Jorge González (La Plata, Argentina), courtesy Horovitz et al, *PLoS One*)



mus of Panama emerged to reconnect North and South America 3 million years ago, two marsupials made it back to North America: the Virginia opossum (*Didelphis virginiana*), a common resident in the Southeast today, and the southern opossum (*Didelphis marsupialis*), which lives as far north as Mexico.

The study describes a new peradectid species, *Mimoperadectes houdei*, based on a relatively complete fossil skull. The high-resolution CT scan of the skull gave researchers a large amount of information about the animal's internal anatomy. The ear, in particular, provides researchers with information on skull anatomy and clues about the animal's locomotion, Bloch said.

The scan showed the new species shared enough common traits with living opossums to indicate an evolutionary relationship. Some predictions about that relationship could have been made from fossil teeth, Bloch said, "but this provides a much stronger foundation for that conclusion."

Most North American marsupials living in the Paleocene and early Eocene (56 million to 48 million years ago) were small-bodied animals. But *M. houdei* approached the body size of some opossums living today.

"You would probably recognize it as an opossum, but it wouldn't look quite right," Bloch said.

The skull came from the same limestone deposits in Wyoming as the primitive primate skull Bloch and other researchers used to map an early primate brain with CT scans in a study published earlier this year.

"In parts of North America today, opossums are one of the most commonly observed mammals around," Bloch

said. "This fossil skull shows its roots going back to the extinction of the dinosaurs. This is literally the fossil that shows us the ancestry of that animal."

The study's examination of the two skeletons gives a first glimpse into the form and structure of primitive marsupials and shows that they were more terrestrial than modern opossums. The skeletons came from the late Oligocene

and were found in the White River Badlands of Wyoming.

The international research team also included Thomas Martin (University of Bonn, Germany), Sandrine Ladevèze and Marcelo Sánchez-Villagra (University of Zurich, Switzerland), and Cornelia Kurz (Natural History Museum, Kassel, Germany).

Poisonous Prehistoric 'Raptor' Discovered in China

ScienceDaily (Dec. 22, 2009) — A group of University of Kansas researchers working with Chinese colleagues have discovered a venomous, birdlike raptor that thrived some 128 million years ago in China. This is the first report of venom in the lineage that leads to modern birds.

"This thing is a venomous bird for all intents and purposes," said Larry Martin, KU professor and curator of vertebrate paleontology at the Natural History Museum and Biodiversity Institute. "It was a real shock to us and we made a special trip to China to work on this."

The KU-China team's findings will be published in the early edition of the *Proceedings of the National Academy of Sciences* during the week of Dec. 21.

"We think it's going to make a big splash," said Martin.

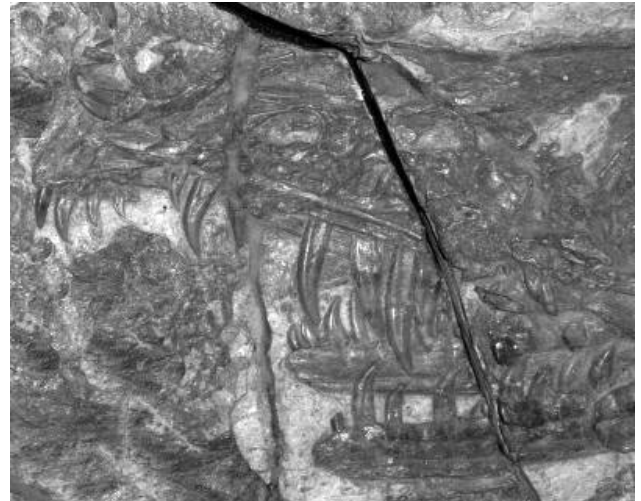
The article's authors are Enpu Gong, geology department at Northeastern University in Shenyang, China, and researchers Martin, David Burnham and Amanda Falk at the KU Natural History Museum and Biodiversity Institute.

The dromaeosaur or raptor, *Sinornithosaurus* (Chinese-bird-lizard), is a close relative to *Velociraptor*. It lived in prehistoric forests of northeastern China that were filled with a diverse assemblage of animals including other primitive birds and dinosaurs.

"This is an animal about the size of a turkey," said Martin. "It's a specialized predator of small dinosaurs and birds. It was almost certainly feathered. It's a very close relative of the four-winged glider called *Microraptor*."

The venom most likely sent the victim into rapid shock, shrinking the odds of retaliation, escape or piracy from other predators while the raptor manipulated its prey.

"You wouldn't have seen it coming," said Burnham. "It would have swooped down behind you from a low-hanging tree branch and attacked from the back. It wanted to get its jaws around you. Once the teeth were embedded in your skin the venom could seep into the wound. The prey would rapidly go into shock, but it would still be living, and it might have seen itself being slowly devoured by this raptor."



The genus had special depressions on the side of its face thought by the investigators to have housed a poison gland, connected by a long lateral depression above the tooth row that delivered venom to a series of long, grooved teeth on the upper jaw. This arrangement is similar to the venom-delivery system in modern rear-fanged snakes and lizards. The researchers believe it to be specialized for predation on birds.

"When we were looking at *Sinornithosaurus*, we realized that its teeth were unusual, and then we began to look at the whole structure of the teeth and jaw, and at that point, we realized it was similar to modern-day snakes," Martin said.

Sinornithosaurus is represented by at least two species. These specimens have features consistent with a primitive venom-delivery system. The KU-China research team said it was a low-pressure system similar to the modern Beaded lizard, *Heloderma*, however the prehistoric *Sinornithosaurus* had longer teeth to break through layers of feathers on its bird victims.

The discovery of features thought to be associated with a venom-delivery system in *Sinornithosaurus* stemmed from a study of the anatomy and ecology of *Microraptor* by the joint Chinese-KU team. They now are seeking to discover if *Microraptor* may have possessed a similar poison-delivery system.

Homo Erectus, Our Clever Ancestors

This species of early man lived from approximately 1.8 million to 300,000 thousand years ago. They coped with one of the first...and worst...ice ages that hit around 650,000 years ago and that lasted for 50,000 years. Then they survived the ones that came each 100,000 years after that.

They were the first to master the use of fire. The earliest evidence of controlled use of fire is dated at 1.5 MYA.

They hunted and gathered in coordinated groups, took care of their weak and infirm companions, made and used complex tools.

At a site in South Africa dated at 750,000 years ago, evidence was found of tanning hides for clothing.

They were the first great explorers. Their fossils have been found in China, India, Kenya, Tanzania, Vietnam, Indonesia, the Republic of Georgia and Turkey. They probably used rafts to cross the shallow seas to these lands. We know they fished since the bones have been found at their sites.

Their brains weren't that much smaller than ours and the casts indicate that they had the brain areas necessary for complex thought and speech. Their vertebrae and hyoid bones also have the needed structures for speech. With the challenges they conquered, it makes sense to think they had at least a rudimentary language.

So we salute our Homo Erectus forebearers and thank them for the skills they mastered and passed along to us.

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	Shelley Zimmerman	(407) 891-1260
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
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Membership	Joanne Maio	(407) 375-3635
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Paul Bordenkircher

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Melissa Cole	(407) 834-5615
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).

Florida Fossil Hunters Mark Your Calendar

See page 2 for more information on events.

January 16, 2010

3:00pm Club Meeting

February 9

7:00 pm, board meeting

February 20, OSC Fossil Fest

Orlando Science Center, 11 am to 4 pm

Kids' Fossil Blast, February 20
hourly presentations from 12 to 3 pm

March 20

3:00pm Club Meeting

March 20 & 21

Tampa Bay Fossil Fest

April 9, 10 & 11

Venice Shark Tooth Festival

TIME TO RENEW

your Florida Fossil Hunters
2010 Membership.

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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Orlando, Florida 32854-040



Florida Fossil Hunters News