

FOSSIL CLUB LEE COUNTY **March 2016**

Letter from the President

Fossil season is upon us!! The river's coming down and the fossil shows are happening and it's a great time of year to be involved in the hobby! We just had our fossil show, the 11th Annual FCOLC Fossil Festival, at the Shell Factory, and it was one of our best ever! The weather was great, the crowds were thick all day, and everyone who participated had a good time!! With the decision this year to make it free admission, we were unable to track exact attendance, but it was very busy all day long! We did well at all the club booths, and most dealers said it was one of their best shows ever. Lots of pictures are posted on our Face Book group page. Check it out!

We have had two members who have recently had some medical issues. Sharon Hale went from the hospital, to a nursing facility, and has just been released to go home! Congratulations Sharon! And, Ray Seguin was admitted to the hospital after a car accident, and has been released to a nursing facility, and as of now is still there. And, we wish the Very best of luck and GET WELL, RAY!! (At almost 92 years old, Ray is the oldest fossil club member in the state! And one of the oldest in the entire country!)

River levels are falling, and some folks are getting out collecting. Send us your pictures and stories so we can all share in your experiences!!

Annual Elections are approaching at the April meeting. As of now, all elected officers and director have agreed to stay on, but if ANY member in good standing wishes to run for an elected office, or has an interest in being a director, please see me about it. We encourage participation, so don't be shv!

Dr. Robert Sinibaldi gave a great talk about pathological teeth at the February meeting. The March meeting will be the annual fossil auction, (so no speaker), and our speaker in April will be Ron Bopp. Try to attend these meetings, folks. We invest a lot of effort to making them fun and interesting for you.

Show and tell is ENCOURAGED!! Bring your fossils in to show, and then tell us about them! Since last meeting we have had our own fossil festival, the Cape Coral Burrowing Owl festival happened, and The Labelle Swamp Cabbage Festival took place. Also, there was the Greek fest, and a art walk and other things going on! This is our high season and lots of activities to keep you interested!

The Tampa bay Fossil fest is coming up, as is the Cape Coral fossil Show and then the Venice Shark tooth Festival! Make your plans!!

John Taraska put on a nice ham dinner and fixins spread at our last meeting! Thanks Dr. John! The Bonita beach Club, a group of FCOLC members, will provide refreshments at the upcoming March FOSSIL AUCTION meeting!!

The annual FCOLC Fossil Auction will be held this month! There is over 100 lots to bid on-something for everyone and every budget! We will have live auction items as well as silent auction. The meeting time will be changed FROM 7 PM-to 6:30 PM !! Viewing and signup for a number will be staring around 6PM. As soon as you get a number, you can start bidding on silent auction items. We will have a 4-5 minute meeting then the auction begins. There are a lot of great items, and even if you're running late, many cool fossils will still be available! Please wait until you are completely finished before checking out. And, if bidding, hold your number high, to make

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sure your bid is recognized! <u>NO</u> \$1 raffle or door prize will be held this month. But, tell our \$1 raffle operator, and Vice-president, Michael Siciliano, HAPPY BIRTHDAY!! I hope to see all of you at the March auction meeting!!

Louis Stieffel President Fossil Club of Lee County





FCOLC Club Meeting of 2/18/2016

Louis Stieffel called the meeting to order. 74 members.

Louis took a few minutes to explain the events of a normal meeting to the new members and introduced the officers of the club.

Louis asked for 2 members to volunteer at the upcoming Cape Coral Burrowing Owl Festival. None immediately volunteered.

A Break was taken for the food provided by John Taraska.

Speaker was Dr. Bob Sinibaldi who gave a great talk on fossil dental abnormalities.

Following the talk there was a question and answer period.

Louis discussed upcoming fossil shows.

Al Govin spoke about overdue renewals and that if dues were not paid by the March meeting any non paid member would be removed from the newsletter email list. It should also be noted nonmembers are not allowed on club trips. Badges are presently current thru "R' and will be completed by next meeting.

Marcia Simons has a canoe for sale. Contact her s 870 4160-0170.

Cindi Bateman has a 10' Kayak for sale. Contact her at 239 823-6016.

A possible trip for the weekend of March 12th was discussed. If it can happen Al Govin will email everyone the details of time, location and directions. No signup required.

Door prize raffle held.

Dollar auction held.

Minutes by Al Govin / Secretary/Treasurer

Click on this link, or post into your browser! Read about fossils found where you would never expect!!

http://www.msn.com/en-us/news/us/signs-of-mass-extinction-behind-a-new-jersey-store/ar-AAglLSK

Fossil Club of Lee County Meetings Are held the third Thursday of the month, at the Zion Lutheran Church Fellowship Hall. 7pm. 7401 Winkler Road, Ft Myers, Florida.

OFFICERS

Louis Stieffel, President 239-851-7499, <u>cape187@earthlink.net</u> Michael Siciliano, Vice President 239-980-1406 Al Govin, Secretary, Treasurer 239-910-2339

DIRECTORS

Dean Hart......941-979-8217 Dave Seehaver Jeanne Seehaver Jim Manderfield

COMMITTEES

Al Govin, Club Trips Director Curt Klug, Web Master Cherie Neat, Newsletter Developer Al Govin, Badges, Membership, Trips Cindy Bateman, Librarian Dave and Jeanne Seehaver, Merchandise Dean Hart, Refreshment Michael Siciliano, Raffle and Dive Trips Mike Cox, Speakers, Trips Louis Stieffel, Auctioneer, Vertebrate Education, Newsletter editor, FOSSIL project representative

Meetings are held on the third Thursday of the month, at Zion Lutheran Church Fellowship Hall.

Websites & Locations of Interest

Fossil Club of Lee County: www.fcolc.com FCOLC Fossil Club of Lee County, Inc. c/o AL GOVIN TREASURER 3584 MIDDLETOWN ST. PORT CHARLOTTE, FLORIDA 33952 The FCOLC website is a source for links to Fossil websites of interest, archived monthly club newsletters, details on club meetings and officers. Museum of Natural History @ Gainesville www.flmnh.ufl.edu/ The Fossil Project www.myFOSSIL.org Randell Research Center PO Box 608, Pineland, FL www.flmnh.ufl.edu/RRC/ Smithsonian Natural History Museum www.mnh.si.edu Southwest Florida Museum of History 2031 Jackson St., Fort Myers www.MUSEUMofHISTORY.org The Bailey-Matthews Shell Museum, 3075 Sanibel-Captiva Rd, Sanibel, FL www.shellmuseum.org Cracker Museum at Pioneer Park in Zolfo Springs, FL Tel 863.735.0119 www.hardeecounty.net/crackertrailmuseum/about.html Cape Coral Friends of Wildlife Burrowing Owls www.ccfriendsofwildlife.org Calusa Nature Center and Planetarium 3450 Ortiz Av, Fort Myers Tel 239-275-3435 www.calusanature.org Imaginarium 2000 Cranford Ave, Fort Myers www.i-sci.org Florida Fossil Clubs Southwest Florida Fossil Club www.southwestfloridafossilclub.com Tampa Bay Fossil Club www.tampabayfossilclub.com Orlando Fossil Club www.floridafossilhunters.com The Fossil Forum www.thefossilforum.com/index.php Fossil Treasures of Florida www.fossil-treasures-of-florida.com Florida Paleontological Society http://floridapaleosociety.com/ Collecting Vertebrate Fossils on Florida state lands **requires** a permit. A fossil hunting permit is also part of being an ethical Florida fossil hunter. Florida Vertebrate **Fossil Permit** http://flmnh.ufl.edu/natsci/vertpaleo/vppermit.htm Peace River Water Levels http://waterdata.usgs.gov/fl/nwis/rt Picking Up Isolated Native American Artifacts www.flheritage.com/news/faq.cfm



The picture shows not only how pointed these teeth are, but how many the shark has!! And, since it loses teeth through feeding, we have the opportunity to find many of them as fossils! This shark was released, unharmed. ongoing shark studies are helping us learn, and therefore better equipped to protect these awesome creatures!

Water Levels for fossil hunting!!

The water is dropping! Finally!! And no serious rains in the forecast!! So, we may be able to start fossil hunting again, soon!! Yeah!! Finally!!

For optimum levels, the Zolfo gauge needs to be at 5, the Arcadia at 2, and Horse Creek at 1 1/2' But, it's getting close!!











A cool picture on the internet during the last shark week! It's not shark week, but it's still pretty cool!!



Shark cloud eating another cloud

UPCOMING EVENTS!!! FCOLC upcoming fossil auction on March 17. Viewing starts at 6pm \bullet and the meeting and Auction starts at 6:30. There will be over 100 great auction lots, so there is something for everyone! Make sure you 0 register early and get a number so you can bid on the silent auction \bullet items! No credit cards. cash and check only! Refreshments provided by the Bonita Beach Club!! Tampa Bay Fossil Club will hold their Fossil Fest on Mar. 12th & 13th. Sat 9am - 6pm, Sun 10am - 4pm. Admission is \$7. Kids 12 & under get in free. It will be held at the Florida State Fairgrounds, intersection of I-4 and Hwy. 301, just east of Tampa. There is a charge for parking. Fossils, minerals, exhibits, igodoletc. For more info, go to tampabayfossilclub.com **Cape Coral Fossil Show** will be held on Saturday, April 2 10:00am--4:00 pm Admission \$3, children 10 and under are free. Location: Rotary Park Environmental Center 5505 Rose Garden Road • Cape Coral, Fl, 33914 239-549-4606 • rotaryparkinfo@capecoral.net Venice Shark's Tooth Festival will be on Apr. 8th - 10th at the Venice Airport Festival Grounds, 610 E. \mathbf{O} airport Ave, Venice, FL Admission is \$4. Kids 12 & under get in free.

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Hello! The FOSSIL Project is thrilled to invite you to our 2016 mini conference taking place in Cincinnati, OH, June 3-5. This mini conference is being held thanks to partnerships with the Cincinnati Dry Dredgers club, the Cincinnati Museum Center, and the Paleontological Society. The event includes two days of field trips to iconic Cincinnati Arch field sites (Ordovician and Silurian geologic age) with crinoids, trilobites, brachiopods, mollusks, echinoids, etc., as well as a full day of exciting talks, student research poster presentations, breakout sessions, and a townhall meeting with officers from the Paleontological Society (townhall topic: how amateur/avocational paleontologists can become an integral part of their premier professional society).

You won't want to miss out on this terrific mini conference! All attendees must pre-register by May **4, 2016.** Please do so by filling out this <u>registration form</u>.

There is NO registration fee to participate. However, participants are responsible for their own travel costs (e.g., flying or driving to Cincinnati), lodging, and meals other than provided lunches. A block of rooms is being held at the <u>Radisson Hotel-Cincinnati Riverfront</u> for the nights of June 2, 3, & 4 at a rate of \$149 per night; please call 1-(859)-491-1200 and mention the FOSSIL Project to reserve a room. To get the special rate, **you must reserve your room by May 4, 2016.**

For a tentative schedule and other details, please check out our <u>dedicated information webpage</u>. (And join the<u>myFOSSIL community</u>!)

<u>Presidents/officers of fossil clubs:</u> please share this announcement with your members and/or run either of the attached flyers in your newsletters. Thank you!

Feel free to email me with any questions or concerns. I hope to see you in Cincinnati this summer!

Best,

Eleanor

Eleanor E. Gardner, M.S. FOSSIL Project Coordinator Florida Museum of Natural History Phone: (352)-273-1936 Email: <u>egardner@flmnh.ufl.edu</u> | <u>fossil@flmnh.ufl.edu</u> Website: www.myfossil.org

Cincinnati Mini Conference on Paleontology

June 3 – 5, 2016 Cincinnati Museum Center Cincinnati, Ohio

Isorophus cincinnatiensis, Official Fossil of the City of Cincinnati Image Credit: Jack Kallmeyer of the Cincinnati Dry Dredgers

Everyone with an interest in the world-renowned paleontology of the Cincinnati, Ohio, region is invited to attend the Cincinnati Mini Conference on Paleontology, co-sponsored by the Cincinnati Dry Dredgers, the Cincinnati Museum Center, the FOSSIL Project, and the Paleontological Society.

For more information, including a prospectus and agenda, see: http://community.myfossil.org/cincinnati2016-mini-conference/.

Travel Scholarships for College/University Students and K-12 Educators

Thanks to sponsorship from the Paleontological Society, five university paleontology students and five K12 educators will be reimbursed for up to \$500 each for their travel costs to attend this meeting!

University students (undergraduate or graduate) and K-12 teachers affiliated with fossil clubs or societies are particularly encouraged to apply. Students are invited to present posters on their research endeavors. Of special interest to educators, there will be a fossils and paleontology lesson-planning session at this mini conference.

Please contact Eleanor Gardner at fossil@flmnh.ufl.edu for more information.

Travel scholarship applications may be submitted via this online form: https://docs.google.com/forms/ d/1tm9s6YhKF1lqLoX8ULq8o8cPed1Qe1eaDzk3LPB7E20/viewform

Deadline for receipt of the application is April 6, 2016. Recipients will be announced by April 15.

Cincinnati Mini Conference on Paleontology June 3 – 5, 2016 Travel Scholarship Application Form

Due: April 6, 2016

Your name:

Postal Address:

Email address:

Phone (Cell) Number:

Fossil club affiliation, if any (otherwise N/A):

Status

___ university student: undergraduate _____ or graduate _____

_____ K-12 science (or STEM) teacher and grade level _____

Why do you want to attend this conference (max. 50 words)?

What would you hope to get out of the conference (max. 50 words)?

If you were selected for the scholarship would you be prepared to:

For students, present a poster on your work or interests in fossils (Yes) (No)

What would the title or subject of your poster be?

For teachers, participate in the lesson planning session with the intent of implementing it

back in your classroom (Yes) (No)

What would the general theme be for your optimal lesson plan?

Where would you be travelling from in order to attend the meeting?

How much scholarship travel funding would you need (maximum \$500*) \$_____

(*We anticipate that scholarships will be disbursed as a lump sum after the conference.)

Please complete this form and submit online by April 6, 2016 or return it by email to Eleanor Gardner, FOSSIL Project Coordinator, at fossil@flmnh.ufl.edu.











Field Trips

Two field trips to Cincinnati Arch locations with opportunities to collect and document many iconic species.

2 Collaboration & Research **3**

Informative talks by Dr. Carlton Brett, Dr. Alycia Stigall, & Dry Dredgers President Jack Kallmeyer, plus a townhall discussion with Paleontological Society officers about how amateur/avocational paleontologists can become an integral part of the Society.

Travel Scholarships

Thanks to sponsorship from the Paleontological Society, five university paleontology students and five K-12 educators will be reimbursed for up to \$500 each for their travel costs to attend this meeting.

Apply for travel scholarships via our online form. Deadline for receipt of the application is April 6, 2016. Recipients will be announced by April 15.

Questions? Email fossil@flmnh.ufl.edu The FOSSIL Project community.myfossil.org



FOSSIL NEWS is BACK!!

FCOLC club members, even though this is addressed to the Florida Paleontological Society, we have been invited to participate. Any member that is interested, here is all the information/links needed to submit an article!

Also, Please join the FCOLC club page on Face Book. There you will see more interesting articles and breaking news on the fossil project and other things going on in our fossil world!! Go to the page and hit LIKE. And if not yet a member on that group page, just request to join. Simple. It's a closed group and no spam. https://www.facebook.com/ groups/378838762286864/



Link to Fossil Club of Lee County Face Book page Please check out the FCOLC site and if not a member, please join. https://www.facebook.com/ groups/378838762286864/

FOSSIL FINDS!!!

WOW!! Ken Folmann was out hunting a creek when he comes upon these two large mammoth teeth, and a few horse teeth, just lying on an eroded bank.

Seems to be the last, rear molars one from each side, with the bone gone. Same as with the 4 associated upper horse molars -no bone. The high water exposed these beauties, and Ken was the lucky fossil hunter to discover them! You can't find 'em if you don't go!!

More pictures on our FCOLC facebook page.https://usmg5.mail.yahoo.com/ya/download? mid=2%5f0%5f0%5f34%5f1% 5fAEpUimIAAOosVtn2QwN-



Ivescience

Jaw-Dropping: Extinct Sea Bear Chowed Down Like a Saber-Toothed Cat

by Mindy Weisberger, Senior Writer | March 02, 2016 07:50am ET



Kolponomos (left), an extinct marine bear with a diet like that of an otter, chomped like Smilodon (right), a saber-toothed cat. Colors show stress patterns produced by bite simulations.

Credit: Ź. Jack Tseng / Camille Grohé / John J. Flynn / AMNH

A mysterious, carnivorous marine mammal that lived 23 million years ago clamped down on its mussel dinner similar to the way a saber-toothed tiger grasped its larger prey, scientists have found.

Peculiar *Kolponomos* (kol-poh-NO-mos), known from only four skulls found in the Pacific Northwest, was originally thought to be a raccoon relative after it was discovered in 1960. Features from more complete fossils found decades later led experts to link *Kolponomos* to bears. However, its mollusk diet most resembled that of otters — a finding that paleontologists deduced from the skulls' tooth structure and wear patterns.

But when researchers looked more closely at how *Kolponomos* may have dislodged its hard-shelled mollusk meals from the sea bottom, they discovered an unexpected resemblance to the bite of a fellow carnivore — *Smilodon*, the saber-toothed cat, which appeared millions of years later. [Image Gallery: 25 Amazing Ancient Beasts]

"Weird carnivore"

According to Z. Jack Tseng, a co-author of the study

describing the findings, when the researchers' analysis of *Kolponomos* began, they thought the oddball species would be just another "weird carnivore" entry into an in-progress and fast-growing data set of all living and extinct carnivores.

Tseng, a paleontologist who studies <u>bite-force biomechanics</u> in extinct carnivores at the American Museum of Natural History, is no stranger to peculiar-jawed animals. He had just completed a*Smilodon* study, he told Live Science, and it occurred to him when he first inspected*Kolponomos*that there were odd similarities between the skull structure in the saber-toothed cat and that of the lesser-known shell-crushing bear.

"Kolponomos had no saber teeth, but other parts of the skull — especially the back of the skull where the neck muscles attached — looked very similar to the saber-tooth [cat]," Tseng said. He also noted parallels in the two animals' jaws, which thinned toward the back where they met the skull. This led him to wonder — even though the two species clearly had different diets, could they have used their jaws in the same way?

"The lower jaw in <u>saber-toothed cats</u> has been hypothesized to serve as an anchor to fix the head against the prey, allowing a stable point around which to swing the sabers," Tseng said. "For*Kolponomos*, the lower jaw would serve the same purpose, of anchoring the head to one side of the shell, and then closing the mouth and using the very powerful neck muscles to twist and get the prey off of the rock."

Reconstructing an extinct animal's bite

To find out, Tseng turned to digital methods that are still fairly new for biologists and paleontologists, but are commonly used by engineers and architects to

test the stresses in buildings and bridges. "It's the same idea, but applied to <u>biological structures</u>," Tseng told Live Science.

They scanned the skulls with a method called computed X-ray tomography, producing images of internal and external skull structures, which the researchers used to create 3D computer models. Once they had the models, the researchers' ran bite simulations and compared skull strength and stiffness aligned with forces like <u>muscles and bite points</u>.

Tseng explained that they modeled and simulated not only *Kolponomos* and *Smilodon* skulls but also the skulls of other species that were closely related to them. "What we found was that, in efficiency and in skull stiffness, *Kolponomos* and *Smilodon* were most similar to each other, and not to their closest relatives," Tseng said. "There's a connection between how they look and how they work structurally."

It may seem odd that an animal with a diet like a sea otter's would have a feeding strategy like a sabertoothed cat's, but Tseng suggested that *Kolponomos'*

and otters' bodies may have differed dramatically in ways that caused their eating habits to diverge. How- ever, without skeleton fossils for <i>Kolponomos</i> , it's diffi- cult to say for sure, Tseng said. "Sea otters smash shells with rocks, and using tools removes the selective pressure to have really strong jaws," Tseng said. "We'll find out more if somebody were to discover forelimbs of <i>Kolponomos</i> , but based on its biomechanics, it would have made sense that	omos is more reliant on its mouth." yone who's curious enough to compare omos and Smilodon skulls for themselves, the uthors have made their models available to ad and 3D print. dings were published online today (March 1) in rnal <u>Proceedings of the Royal Society B</u> .
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LaBelle Fossil Camp 2016

I'm at Scott Perry's booth at the recent Swamp Cabbage Festival in LaBelle, FI. Scott runs 2 or 3 fossil camps for kids, through the LaBelle Heritage Museum. These are week long summer camps for kids with an interest in fossiling. They learn about the prehistoric life that lived in the area and also experience field work finding fossils in the area. They travel to sites along the Caloosahatchee River by boat and the kids have a great time and learn a lot. If you have any interest in helping, or would like to contribute contact Scott Perry, (409) 502 9019, or email at: scottperry27@gmail.com Louis



Fossil Finds!!

Rare **<u>ROOTED</u>** barracuda teeth!! It's very unusual to find these teeth with roots! Collected in Venice, by Ben Schultz, diving.



Digging for Gomph & Rhino

contributed by Jack Boyce.

Exciting times in Florida. The Florida Museum of Natural History (FLMNH) has announced the volunteer opportunities for 2016. More information can be found directly from their website:

https://www.flmnh.ufl.edu/vertpaleo/volunteering/field/

This year the Thomas Farm site will have a limited opportunity for field work--April 4-8 which is a Monday-Friday (no weekends). The reason for the minimal field work at Thomas Farm is actually for a good reason--they are focused on a brand new site! A new fossil site (on private property) southwest of Gainesville near the town of Williston is showing signs of being spectacular. Unlike the random disarticulated finds at the Thomas Farm sinkhole, the new site seems to contain some associated skeletons. They have already found gomphothere and rhino and there have been signs of llama, horse, and some carnivores. Additionally, there is a high diversity of turtles (6 species so far) as well as fish and gators.

The sign-up for Thomas Farm won't be till early March but the extended field season at the new site is already underway (started last Saturday). The link above contains an application form with the schedule of days that they are digging at this new site. If you've got the opportunity and interest to see a brand new site as it is uncovered, don't miss this opportunity--you'll regret it later if you do.

Don't delay--volunteer opportunities to work side-by-side with experts like Dr. Richard Hulbert don't come along every day.

Giant Flightless Bird Once Roamed the Arctic

Feb 16, 2016 08:40 AM ET // by Michael Casey, FoxNews.com



ILLUSTRATION BY MARLIN PETERSON

More than 50 million years ago, a giant flightless bird that weighed several hundred pounds lived in the Arctic.

Based on a single toe bone first found in the 1970s, researchers from the Chinese Academy of Sciences in Beijing and the University of Colorado Boulder determined that the bird, named Gastornis, lived in the Arctic Circle on Ellesmere Island.

"People thought there was a larger bird up there but the fossils had never been described," CU-Boulder's Jaelyn Eberle, a co-author of <u>a study</u> on the bird that appeared in Scientific Reports, told FoxNews.com of the bone which was in the collection of the Canadian Museum of Nature.

Dinosaurs Of A Feather Come Together: Photos

"There are lots of wonderful discoveries we can make in the field," she said. "But I would say there are a lot of great discoveries that can be made in collections that have been hanging around for a while but, for whatever reason, hadn't been described. We knew

there were birds but nothing had been described until this paper."

Eberle and the lead author on the study, Thomas Stidham, then compared the bone to those of similar bird fossils found in other parts of the world. They concluded it may be of the same genus as giant birds found in mid-latitude locations.

"Gastornis has been known from mid-latitudes for a long time, from Wyoming, Colorado, Europe. What we were able to do was compare that fossil from the Arctic to all of these mid-latitude specimens," she said. "I think what is interesting is that the toe is virtually identifical to specimens from Wyoming. The difference is they are 4,000 kilometers (2,485 miles) apart. That is kind of strange."

Fossil Poo Reveals Where Ancient Giant Bird Ate

Coming upon this bird would have been a terrifying sight and researchers initially believed it was a fearsome carnivore. It would have stood 6 feet tall and been about the size of an adult male with a head about the size of a horse's. But more recently, other researchers had found that it was a vegan, using its huge beak to tear at foliage, nuts, seeds and hard fruit. And unlike the harsh conditions of Ellesmere Island today where temperatures can drop to minus 40 degrees in winter, the bird's environment about 53 million years ago would have been similar to cypress swamps in the southeast, Eberle said.

"It was still formidable but it was the plants that had to be fearful," Eberle said.

Dodo Bird 3D Scan Reveals Previously Unknown Bones

Fossil evidence indicates the island, which is adjacent that walks on land to travel from Ellesmere Island to Greenland, hosted turtles, alligators, primates, ta- down the tree line each year."

pirs and even large hippo-like and rhino-like mammals.

And unlike modern day ducks and geese that migrate through the Arctic, Eberle said Gastornis was most likely a year-around resident. It would have had enough to plant material eat, she said, and probably wouldn't had the energy to migrate elsewhere.

"We would hyphosize that a large bird, just like large mammals up there, could overwinter in the Arctic," she said. "Because this is a land dwelling bird, I think they were permanent residents. Part of it is because – this is the same argument we use for the mammals up there - it's energetically expensive for an animal that walks on land to travel from Ellesmere Island down the tree line each year."



Curtis Klug, webmaster and long time member, accepting his Lifetime Member Award from FCOLC President Louis Stieffel. Picture taken at the January 2016 meeting.

Announcing the first FOSSIL Project "PaleoBlitz," March 18-20, 2016, @ FLMNH

The FOSSIL Project is happy to announce its first PaleoBlitz, scheduled for **March 18-20, 2016**, at the University of Florida's Florida Museum of Natural History!

A PaleoBlitz, similar to a BioBlitz, is an intense period of paleontological survey conducted by citizen scientists. This pilot PaleoBlitz is intended to engage amateur paleontologists in the entire fossil collection process – from first finding a fossil, to field documentation, to museum curatorial work. The organizers, FOSSIL Project postdoc Dr. Ronny Leder and UF PhD student Victor Perez, hope that this event will be beneficial to the amateur paleontological community by promoting best practices in fossil collection and curation.

We are inviting 12 individuals from different paleontology clubs/organizations to participate in this weekend-long workshop. **Please fill out this application [click link] in order to be considered; applica-tions are due by 5pm on March 11, 2016**. Alternatively, you may submit the Word document application attached.

Ideally, we would like to have two people from each club represented at this event: one veteran member and a rookie member. Having participants with this dichotomy will help to establish a mentor-mentee relationship and result in a range of unique perspectives.

The event itself will give you hands-on exposure to the museum curation process. Participants will aid in identification, preparation (cleaning), curation (database entry), and documentation (photographing) of fossils collected from the Belgrade Mine in North Carolina. Additionally, there will be a tour of the paleontology collections at the Florida Museum of Natural History and a tour of the famed Hubbell collection. Finally, there will be an optional field trip to local Gainesville creeks to collect fossils.

Travelling costs will be at your own expense; however, the FOSSIL Project will cover lodging and some food expenses. You may contact either of the event organizers, Victor Perez (victorjperez@ufl.edu) or Ronny Leder (leder.ronnymaik@flmnh.ufl.edu), with any additional questions that you may have.

For more information or to submit nominations, please contact the FOSSIL Project Coordinator, Eleanor Gardner, at fossil@flmnh.ufl.edu.

Eleanor E. Gardner, M.S.

FOSSIL Project Coordinator

Florida Museum of Natural History

Phone: (352)-273-1936

Email: egardner@flmnh.ufl.edu | fossil@flmnh.ufl.edu

Website: www.myfossil.org

PaleoBlitz Application	Please explain your choice in the space below.	
Thank you for your interest in the Belgrade PaleoBlitz. The FOSSIL project is inviting twelve individuals from different paleontology clubs/ organizations to participate in this weekend-long workshop. Please fill out the following application in order to be considered for this opportunity.	Which of the following best describes your fossil hunting activities?	
	I was a fossil hunter in the past, but have not actively hunted fossils in the past 5 years.	
	I am currently an active fossil hunter	
Please note that travelling costs will be at your own expense; however, the FOSSIL project will cover	I have a fossil collection, but I acquire my fossils through friends and sales.	
This PaleoBlitz will take place the weekend of March 18th, 2016. You may contact either of the event organizers, Victor Perez (victorjperez@ufl.edu) or Ronny Leder (leder.ronnymaik@flmnh.ufl.edu), with any additional questions that you may have.	Please describe your fossil collection. What is the size of your personal collection? What kinds of fossils do you have in your collection	
	What kind of associated information, if any, do you store along with your fossils (e.g., name of species, details about where/when collected, etc.)	
Please email this form back to fossil@flmnh.ufl.edu by 5:00 PM on March 11, 2016. Please provide your name and contact information.	What motivates you to collect fossils? Check all that apply.	
Name:	Personal enjoyment	
Address:	To support my child's interest	
Address 2	Monetary gain	
City:	For use in educational programs (in and out of	
State:	School)	
Postal Code:		
Country:	Other Please explain	
Email:	Briefly describe your prior experience working with	
Phone:	Please rate you current level of knowledge about the steps museum staff follow from the point that a fossil enters the museum until it is placed in a collection.	
fossil organization?		
Less than a year		
Between 1 and 5 years	Very low	
More than 5 years	Low	
Not a member of a fossil organization	Somewhat low	
Please list the fossil clubs and/or societies of which vou are a member.	Neither high nor low	
Have you ever held an officer/leadership position in your club? If so, please list the position(s) you've	Somewhat high	
	High	
neia.	Very high	
fossil organization?	If you would like to explain your rating, please do so below.	
All of the time	Please explain why you are interested in participating in the PaleoBlitz. What would you hope to gain from the experience?	
Sometimes		
Kareiy		
Never		
	l	

Burrowing Owl Festival

The FCOLC has participated in this fine local Cape Coral event for many years. We display fossils and talk about the club. This year, we were represented by Joel Noah and Louis Stieffel (pictured) and Joe Larkin and Ray Seguin (not pictured). The crowds were very heavy this year and we talked to a lot of interested folks!



SURROWING OWL FESTIVAL AT. Feb 27 10am-4pm ~ Rotary Park







Fossil Finds!!

Kyle Clements was able to find a low enough spot to hunt, on February 28. Normally it's ankle deep, but this year is very rainy and finding a hunting spot is pretty hard! He headed WAY upriver. A long ride, but took the chance and it paid off.



Volkswagen-Size Armored Mammal Is Armadillo Ancestor

by Laura Geggel, Staff Writer | February 22, 2016 03:02pm ET



The glyptodont, an extinct mammal, is an ancient relative of the modern armadillo.

Credit: Peter Schouten

A new genetic analysis of the glyptodont, an ancient armored creature the size of a Volkswagen Beetle, reveals that it's closely related to the modern-day armadillo.

Glyptodonts roamed the Earth for millions of years until they went extinct during the last ice age, about 10,000 years ago. The animal's clublike armored tail, enormous size and remarkable bony shell have captivated many since Charles Darwin collected the first known specimens in the early 1830s. Though the glyptodont looked like a giant armadillo, scientists weren't sure how it fit into the armadillo family tree until now, the researchers said.

"The data sheds light on the familial relations of an enigmatic creature that has fascinated many but was always shrouded in mystery," study researcher Hendrik Poinar, an evolutionary geneticist and physical anthropologist, <u>said in a statement</u>. "Was the glyptodont a gigantic armadillo or weird offshoot with

a fused bony exoskeleton?" [<u>10 Extinct</u> <u>Giants That Once</u> <u>Roamed North America</u>]

Melanie Kuch, a research assistant of anthropology at McMaster University in Ontario, Canada, examines ancient glyptodont specimens. Credit: McMaster University

Glyptodonts are part of the mammal group Xenarthra, which includes anteaters, tree sloths, extinct ground sloths, extinct



pampatheres (a small armadillolike creature) and armadillos, but its relationship to these animals had eluded scientists.

Now, a genetic analysis shows that the glyptodont is nestled deeply within the armadillo family and should be treated like a close relative, the researchers said.

"Glyptodonts, in fact, represent an extinct lineage that likely originated about 35 million years ago within the armadillo [diversification]," said Poinar, who is director of the McMaster Ancient DNA Center at McMaster University in Canada.

Poinar worked with an international team of scientists to collect glyptodont specimens; they used ancient DNA-extraction techniques on one specimen — an approximately 12,000-year-old bony shell of a *Doedicurus*, one of the largest glyptodonts on record.

An analysis of the specimen, found in Argentina, allowed them to extract and sequence the mitochondrial DNA (genetic data passed down through the maternal line). Then, they compared it with the mitochondrial DNA of other living mammals in the <u>Xenarthra</u>

<u>group</u>.

The glyptodont had extensive body armor. Credit: Carl Buell

"Ancient DNA has the potential to solve a number of questions such as



phylogenetic position

— or the evolutionary relationship — of extinct mammals, but it is often extremely difficult to obtain usable DNA from fossil specimens," Poinar said. "In this particular case, we used a technical trick to fish out DNA fragments and reconstruct the mitochondrial genome."

An additional analysis suggested that the last common ancestor shared by the glyptodont and modern armadillo weighed just 13 lbs. (6 kilograms), showing that the glyptodont grew by leaps and bounds compared with its ancestor. The fossil record supports this idea, since <u>glyptodonts</u> appear to have once weighed about 176 lbs. (80 kg) before they evolved into creatures weighing about 4,400 lbs. (2,000 kg) during the Pleistocene, the period before the last ice age.

The study was published online Feb. 22 in the journal Current Biology.

Follow Laura Geggel on Twitter <u>@LauraGeggel</u>. Follow Live Science <u>@livescience</u>, <u>Facebook</u> &<u>Google+</u>. Original article on <u>Live Science</u>.

Great Dane to Chihuahua: How Do We Know Dogs Are the Same Species?

by Laura Geggel, Staff Writer | February 26, 2016 07:27am ET



If aliens visited Earth tomorrow, would they realize that dogs — from the spotted Dalmatian, to the giant Great Dane, to the tiny Chihuahua — are all the same species?

Forget aliens, said Jack Tseng, a paleontologist at the American Museum of Natural History in New York. If we hadn't actually bred dogs ourselves, even humans would have a hard time determining that a Cavalier King Charles spaniel and a wolfhound are related, he said.

"If you were a biologist who comes from a society that never had any dogs associated with humans and you looked at these dogs, you would immediately

think that these were different species," Tseng told Live Science. [10 Things You Didn't Know About Dogs]

Typically, researchers rely on anatomy and genetics to determine whether animals belong to the same species. But because of their varied shapes and sizes, anatomy is relatively useless when comparing different breeds of dogs, he said. Even dogs' teeth, though similar in structure, come in so many sizes that it would be difficult to determine that they're from the same species, Tseng said.



iaris, a distinct species from the wolf, Tseng said.

A rainbow of canid skulls, including a dark wolf skull from the Los Angeles tar pits on one end and a light-colored dog skull on the other. Credit: AMNH | D

"It's a good example of how much you can tweak the same genetic blueprint and have animals that look so different still be the same species," he said.

Instead, genetic analyses tell us that all <u>dogs are the</u> <u>same species</u>, Tseng said.

But, by those standards, dogs and gray wolves (*Canis lupus*) are also the same species, as the two share most of the same genes. There's still debate about whether to call dogs *Canis lupus familiaris*, suggesting that they are a subspecies of the wolf, or *Canis famil*-



Despite their similar genes, the two do have some different gene variants, known as alleles. For instance, a variant of the <u>gene IGF1</u> is associated with body size. One IGF1 variant is linked to small body size in dogs, but it's not found in wolf populations, according to a 2010 study published in the <u>journal BMC Biology</u>.

Dogs come in all shapes and sizes, including one of the earliest and smallest dogs, *Archaeocyon pavidus*, next to one of the largest canids, the bear-size *Epicyon haydeni*. Credit: AMNH | J

Another clue that all types of dogs are the same species is that they can reproduce with one another. Technically, different dog breeds can have puppies together, although Tseng said he is "not aware of actual examples where people have tried to cross dog breeds that are dramatically different in size — imagine [a] Great Dane and [a] Chihuahua." However, domestic dogs can also breed successfully with wolves — a fact that supports the idea of classifying dogs in the same species as wolves, Tseng said.

Still, wolves and dogs have subtle differences in their anatomy. Dogs have more prominent, raised foreheads than wolves do, he said. Domestic dogs also tend to have <u>shorter faces</u> and more crowded teeth as a result of that, he said.

"They have the same number of teeth as wolves, but there's less space to put the teeth in," Tseng said. "The teeth sometimes reduce in size, but also sometimes get rotated a little bit so they can fit more of them in the mouth."

Despite these minor differences, genetic data — especially mitochondrial DNA, which gets passed down through the maternal line — suggest that all dogs are the same species, and that wolves likely are, too. But from a societal standpoint, wolves and dogs are <u>extremely different</u>.

"Based on what we know about them as scientists and pet owners, [dogs] have definitely become something different from just wolves," Tseng said.

Follow Laura Geggel on Twitter <u>@LauraGeggel</u>. Follow Live Science <u>@livescience</u>, <u>Facebook</u> &<u>Google+</u>. Original article on <u>Live Science</u>.

Richard Hulbert, vertebrate collections manager of the FLMNH, accepting a donation of a rare, Peace River collected, partial walrus tusk from Louis Stieffel.

This took place at our recent fossil festival, where Richard was handling the vertebrate Fossil Permits. The Walrus tusk had been on display in the Shell Factory Fossil Museum.



Oldest Nervous System Found in 520-Million-Year-Old Fossil

by Mindy Weisberger, Senior Writer | February 29, 2016 07:42pm ET



Complete specimen of Chengjiangocaris kunmingensis, showing a preserved nerve cord. Credit: Jie Yang (Yunnan University, China)

Fossils of an ancient creature resembling a shrimp with an armored head contain the oldest and bestpreserved nervous system ever found, which could help scientists decipher the evolution of nervous systems in animals alive today, according to a new study.

The remarkable remains belonged to Chengjiangocaris kunmingensis, a crustaceanlike creature that lived 520 million years ago in what is now South China. The fossils revealed a long "ropelike" central nerve cord that extended throughout the body, with visible clusters of nerve tissue arranged along the cord, like beads strung on a thread. Even individual nerve structures could be detected, the scientists discovered.

They noted that the nerve tissue masses, or ganglia, grew progressively smaller along the central nerve cord, with the smallest masses being the ones most distant from C. kunmingensis's head. The researchers also found that the ganglia were associated with pairs of legs, which also reduced in size as they progressed along the animal's body. [Fabulous Fossils: Gallery of Earliest Animal Organs]

Other structures in C. kunmingensis's nervous system - dozens of nerves that emerged at regular in-

tervals from the nerve cord near the underside of the body — resembled those found in certain types of modern worms, but were absent in modern arthropods, offering clues to the scientists about how nervous systems adapted as different forms of life in these related lineages evolved.

Complete C. kunmingensis specimen with nerve cord — a dark, ropelike strand — visible on the left, near the head shield.

Credit: Jie Yang (Yunnan University, China)

Arthropod ancestors

C. kunmingensis lived during the Cambrian, the geologic

period on Earth when life was rapidly diversifying, and they belonged to a group of arthropod ancestors called fuxianhuiids. These predecessors of insects, arachnids and crustaceans had armored heads and long, segmented bodies atop numerous pairs of legs — with three or four pairs per segment. These creatures likely scuttled across the sea bottom, scooping food into their mouths with a larger pair of

limbs close to their heads, according to study co-author Javier Ortega-Hernández, a biologist in the Department of Zoology at the University of Cambridge, in the United Kingdom.

"Some of the largest individuals can reach up to 15 centimeters (6 inches) long, and they had at least 80 legs!" Ortega-Hernández told Live Science in an email.

But until now, little was known about what they looked like on the inside. Fossils typically provide scientists with records of bones, teeth, shells and other tough organic structures, while softer tissues generally disintegrate too quickly to be preserved, and are lost to time. But sometimes conditions prevail that protect the more delicate organs, allowing them to fossilize as well.

According to Ortega-Hernández, the Xiashiba area in Kunming, South China, where the specimens were found, is "world famous" for preserving soft-bodied life. He explained that the animals were likely buried in fine sediment in an oxygen-poor environment, which would protect the carcass from both scavengers and microbes, slowing or even halting decay.

"Eventually the carcasses become preserved in the fossil record, and the limited decay allows for the preservation of amazing morphological detail," he said. [Photos: Ancient Sea Monster Was One of Largest Arthropods]

Magnification of C. kunmingensis nerve cord and ganglia (ga) linked by longitudinal connectives (cn).

Credit: Yu Liu (Ludwig-Maximilians-University, Germany)

"Our jaws dropped"

Prior studies from this period described fossils providing evidence of these arthropod ancestors' brains, but this study is the first to describe a complete nervous system from this ancient time, and with a level of detail that has never been seen before, the researchers said.



When the scientists looked closely at the ganglia masses, they spied fibers that measured around five-thousandths of a millimeter in length — "less than [the width of] a human hair," Ortega-Hernández said.

"Our jaws dropped when we put the specimens under the microscope and observed the fine nerves on the sides," he told Live Science. "It was hard to believe that something so small would be preserved along with the main nerve cord, but even more so because they show a unique organization that is otherwise unknown in living arthropods."

This organization — nerve cord, ganglia and dozens of nerves extending along each side — is similar to the neural systems of modern arthropods, Ortega-Hernández said. But, in arthropods alive today, the number of fine nerves is significantly lower, he added.

The number of these nerves is higher in velvet worms — cousins to arthropods —which suggests this feature dates back to the last shared ancestor for these two groups.

"It is possible that as arthropods became more specialized in their function, they managed to make their nervous system more efficient by reducing the number of nerves," Ortega-Hernández said, adding that this is only a hypothesis. "But it will be an interesting topic to explore in future studies," he said.

The findings were published online today (Feb. 29) in the journal Proceedings of the National Academy of Sciences.

Follow Mindy Weisberger on Twitter and Google+. Follow us @livescience, Facebook &Google+. Original article on Live Science.

Aimeee's Corner!!

There is no method to my madness. Any of you who know me know it's true: when it's time to dig, I just start digging and I dig until my arms give out. I've heard a lot of opinions on the proper way to dig for fossils in the rivers and I'm sure you have your own way of doing it. The best and most thorough way to do it would probably be to work in a grid pattern like a true paleontologist but that seems to be reserved for fossil hunters who are retired and can visit a location several days a week, thus enabling them to work their grid in an orderly fashion without interruption. But try this method if you can only get to the river once a week and you'll find your orderly grid will be trashed by the bane of the organized fossil hunter's existence: the "pot-holer." I'm here to confess, my name is Aimee and I'm a pot-holer. The simple fact is, I ain't got the time to dilly-dally and rest on convention! I've got holes to dig! Even the pot-holer has a method. Some people like to dig in a line, creating a trough, which also gives them the chance to survey the gravel in any given area at the same time they are screening for fossils. I've had people tell me they only dig north to south, or east to west. Some people dig until they find a promising "seam" of fossil material and just keep digging in that direction. I dig a big hole. I keep digging and digging, as a way of hedging my bets, in all directions. We've had another slow fossil season due to the high water levels but I managed to get in the water with my shovel in early March. I've included a picture which shows my typical digging style and a few of my lucky finds. Lucky because this is an area which has very little fossil material and I wouldn't go there if I could get into the Peace. Beggars can't be choosers so I'll exercise my fossil madness wherever I can.





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Saturday & Sunday

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Florida's Fossil Vertebrates & the Fossil Hunting Permit with Dr. Richard Hulbert PhD of the Florida Museum of Natural History. It's cheap and easy! Learn how to get your fossil permit and participate in the science of paleontology.

The Perfect Plaster Jacket & Other Preservation Techniques with Bill Faucher. Learn how to successfully get fossils from the field to your lab. Jacketing, glues, and preservation techniques are discussed for the beginner.

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