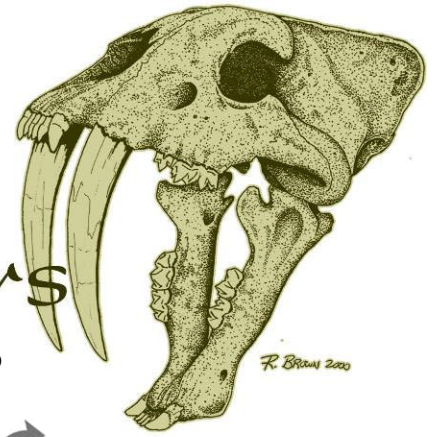


# NEWS

## Florida Fossil Hunters



Florida Prehistorical Museum, Inc.  
dba/ Florida Fossil Hunters  
Volume 33, Number 3

MAY/JUN 2023

### From Ye Olde President...

Welcome all new FFH and Facebook members and also all you fossil-hunting enthusiasts. I would like to wish all mothers a Happy Mother's Day and thank you for giving us the gift of life. Summer is on the way with hotter and hotter days. Best time of the year for fossil hunting in the rivers. Make sure to check river levels before you plan your trip.

**April's field trip** and FFH meeting at Chris Delory's fossil exhibit and Dino Labs was a fun experience. Chris Delory and his team were great hosts and gave FFH members great deals on fossils.

**Aiden will be May's FFH meeting quest speaker.** Aiden's presentation will be Florida Fossilized: The Making of Prehistoric Frontier. Please bring your new fossil finds and talk about your fossil trips. May's meeting will have Kids Blast before the meeting at 2pm. Topic for the Kids Blast will be Paleontology for Kids.

FFH and Salvatore's Fossils Exhibits will be participating with **Family Fest in Altamonte Springs**. We will have fossil exhibits and kids fossil shark tooth digs. Family Fest at Cranes Roost Park will be held on Saturday, May 13 from noon - 5pm. I hope to see FFH members to attend and participate with Family Fest.

Cranes Roost Park address:  
150 Cranes Roost Boulevard, Altamonte Springs, Florida 32701

**June's meeting** will include the FFH bi-annual Fossil bucks fossil auction. See page 6 for the list.

Thank you,  
Salvatore Sansone, FFH President

## Coming Events

### UPCOMING MEETINGS at the Orlando Science Center

**FFH meeting at OSC**  
Saturday, May 20th  
2pm Kids' Fossil Blast  
3pm Meeting

**FFH meeting at OSC**  
Saturday, June 24th  
3pm Meeting & Auction

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

MEETING  
SCHEDULE  
2023  
On Page 8

2023  
FOSSIL FAIR  
Save the Date  
October 21 & 22

# Florida Fossil Hunters News

# MEETINGS & MORE

## Our Upcoming Meetings

**May 20th**

2pm Kids' Fossil Blast 3pm Meeting.

Theme: Florida Fossilized:  
The Making of Prehistoric Frontier.

**June 24th**

Meeting and Auction begin at 3pm

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

## Kids' Fossil Blast

May 20th 2:00-3:00pm

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

## PIECE ON THE PEACE

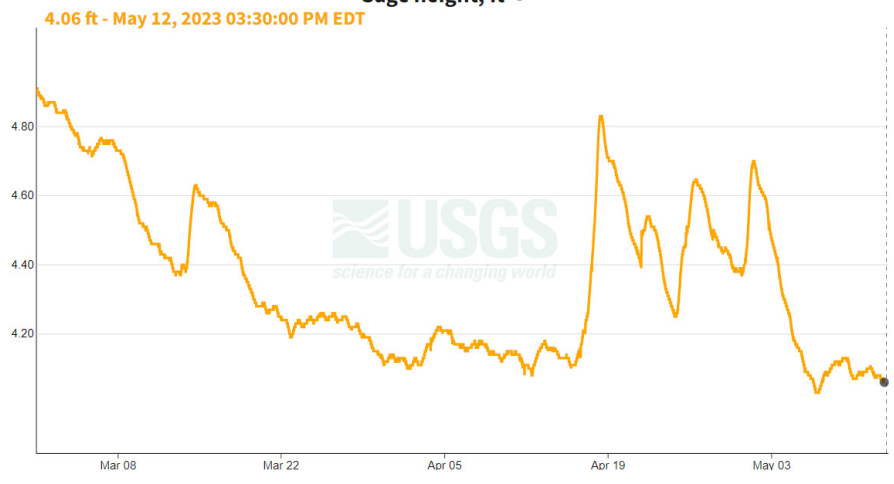
**Want the most  
current height?**

Visit [floridafossil-hunters.com](http://floridafossil-hunters.com)  
and click on the easy **Peace River  
Gauge** button in the sidebar  
or under the Resources tab for  
the latest water level data or visit  
the [USGS website](https://www.usgs.gov) directly.

PEACE RIVER AT  
US 17  
AT ZOLFO  
SPRINGS, FL

### Peace River at US 17 at Zolfo Springs, FL - 02295637

March 1, 2023 - May 12, 2023  
Gage height, ft



# Florida Fossil Hunters News





**Pictures from the  
April Field Trip to  
Chris DeLorey's  
Warehouse & Store**

# Florida Fossil Hunters News

# Early evolution of sea urchins

*A genome-scale analysis of the evolutionary relationships and times of origin of sea urchins and their relatives has prompted a re-evaluation of their fossil record*

March 22, 2022 | eLife

*New insight on the origins and early evolution of echinoids, a group that includes the sea urchins, the sand dollars, and their relatives, has been published today in the journal eLife.*

The study suggests that modern echinoids emerged approximately 300 million years ago, survived the Permo-Triassic mass extinction event -- the most severe biodiversity crisis in Earth's history -- and rapidly diversified in its aftermath. These findings help address a gap in knowledge caused by the relative lack of fossil evidence for this early diversification.

There are more than 1,000 living species of echinoids, including sea urchins, heart urchins, sand dollars and sea biscuits, which live across different ocean environments ranging from shallow waters to abysses. Throughout history, the hard spine-covered skeletons of these creatures have left an impressive number of fossils. However, despite this remarkable fossil record, their emergence is documented by few fossil specimens with unclear affinities to living groups, making their early history uncertain.

"There are still debates among scientists about when the ancestors of echinoids emerged and what role the mass extinction event that occurred between the Permian and Triassic periods may have played in their evolution," says first author Nicolás Mongiardino Koch, who completed the work while he was at Yale University, New Haven, Connecticut, US, and is now a postdoctoral fellow at Scripps Institution of Oceanography at UC San Diego, US.

"We set out to help resolve these debates by combining genomic and paleontological data to disentangle their evolutionary relationships. The

extraordinary fossil record of echinoids and the ease with which these fossils can be incorporated in phylogenetic analyses make them an ideal system to explore their early evolution using this approach."

Mongiardino Koch and the team built upon available molecular resources with 18 novel genomic datasets, creating the largest existing molecular matrix for echinoids. Using this dataset, they were able to reconstruct the phylogenetic relationships and divergence times of the major lineages of living echinoids and place their diversification within broader evolutionary history. They did so by applying a 'molecular clock' technique to their dataset, whereby the rate at which mutations accumulated in the echinoid genomes is translated into geological time with the use of fossil evidence, allowing researchers to determine when different lineages first diversified.

Their analyses suggest that the ancestors of modern echinoids likely emerged during the Early Permian, and rapidly diversified during the Triassic period in the aftermath of a mass extinction event, even though this evolutionary radiation does not seem to have been captured by the fossil record.

Additionally, the results suggest that sand dollars and sea biscuits likely emerged much earlier than thought, during the Cretaceous period about 40 to 50 million years before the first documented fossils of these creatures. The authors say this result is remarkable, as the tough skeleton of the sand dollars, their buried lifestyles, and their extremely distinct morphologies imply that their fossil record should faithfully reflect their true evolutionary history.

## Florida Fossil Hunters News



The team also developed a multivariate statistical approach called a 'chronospace' to help them visualise and assess the robustness of their evolutionary timeline to different choices in their analyses. They found that different implementations of the molecular clock model had the strongest impact on divergence times, while other decisions showed minimal effects.

"Our work greatly expands the genomic data available for echinoids and helps resolve some

of the long-standing questions around their evolutionary history," concludes senior author Greg Rouse, Professor of Marine Biology at Scripps Oceanography. "Together, the results suggest that we need to re-evaluate the echinoid fossil record, with future studies of overlooked fossil remnants potentially providing further support to our findings."

<https://www.sciencedaily.com/releases/2022/03/220322122555.htm>

**The City of Altamonte Springs Presents**



**family  
fest**

**May 13 | 12 - 5 p.m.**



**It's an afternoon of free family fun at Cranes Roost Park. Learn something new with STEAM (Science, Technology, Engineering, Art, Math) activities!**



<https://www.altamonte.org/787/Family-Fest>

# Florida Fossil Hunters News

# June 2023 Auction Items

June 24th Meeting at the Orlando Science Center

1. Fluorescent Trancas Geode with Drusy Quartz
2. Plesiosaur Tooth
3. Agatized Palm Wood
4. Sliced Ammonite Fossil
5. Florida Fossil Collection
6. Shark Teeth and Sawfish Rostral - Morocco (New Member)
7. Sigillaria Plant Fossil
8. Fossil Peccary Tusk (Min. Bid 3,000)
9. Fossil Collection (Jr.)
10. Horse Hoof Core and Toe Bones (Min. Bid 5,000)
11. Polished Dinosaur Bone
12. Megalodon Shark Tooth (Min. Bid 8,000)
13. Giant Cave Bear Tooth
14. Petrified Wood – Texas (Jr.)
15. Permian Tree Fern Fossil (Min Bid 5,000)
16. Agatized Coral (New Member)
17. Petrified Wood
18. Polished Fossil Ivory (Min. Bid 5,000)
19. Shark Vertebra in Matrix

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## FLORIDA FOSSIL HUNTERS

### ATTEND MEETINGS

Learn more &  
Get involved!  
Monthly Meetings have  
guest speakers & time to share finds.

### VOLUNTEER &

#### MAKE AN IMPACT

Help plan club events or  
inspire others about fossils at  
the science centers & schools.

### JOIN THE

#### FACEBOOK GROUP

Share your finds and  
help others identify.

[Facebook Group](#)

# Florida Fossil Hunters News

# Florida Fossil Hunters

# Membership Application

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.

**MAIL in this form or Register ONLINE at**  
[www.floridafossilhunters.com/membership](http://www.floridafossilhunters.com/membership)

Membership options are listed to the right.

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

Names: \_\_\_\_\_

Associate Members: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone: \_\_\_\_\_

e-mail: \_\_\_\_\_

\_\_\_\_ New \_\_\_\_ Renewal

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

\_\_\_\_\_

\_\_\_\_\_

Family membership: \$25  
Individual membership: \$20

**Please make your checks payable to:**

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

*Associate members are people in the same household, included at no extra charge, 2 adult votes per household with Family Membership. Per our insurance policy, family membership covers married couples and children. All other individuals must have separate individual membership to be covered by our club insurance.*

Membership year runs from January to December.

## Newsletter Policy

Articles must be submitted two weeks before publication date. to be considered for an issue. Emailed to: [info@floridafossilhunters.com](mailto:info@floridafossilhunters.com). Articles can be sent either as text in the e-mail, in a google doc, or in Microsoft Word files (.docx).

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

**Florida Prehistorical Museum, Inc.**  
**dba/ Florida Fossil Hunters #**

**Officers:**

- President Salvatore Sansone (321) 278-9294
- Vice President 1 Steve Sharpe (352) 552-2296
- Vice President 2
- Secretary Melissa Cole (407) 461-8507
- Treasurer David Dunaway (407) 786-8844

**Chairs:**

- Field Trips **OPEN**
- Fossil Fair Valerie First (407) 699-9274
- Fossil Auctions Dave Dunaway (407) 786-8844
- Fossil Bucks Dave Dunaway (407) 786-8844
- Fossil Lotto Ed Metrin (407) 321-7462
- Membership Ken Sellers
- Newsletter
- Elise Cronin-Hurley [info@elisech.com](mailto:info@elisech.com)
- Photography John Heinsen (407) 291-7672
- Facebook Salvatore Sansone
- Ken Sellers
- Webmaster Elise Cronin-Hurley [info@elisech.com](mailto:info@elisech.com)

**Board of Directors:**

- Joyce Bittle (407) 341-6366
- Melissa Cole (407) 461-8507
- Marge Fantozi (407) 256-5566
- Valerie First (407) 699-9274
- Ed Metrin (407) 321-7462
- Ken Sellers (407) 457-4117

# Florida Fossil Hunters News

# Florida Fossil Hunters Mark Your Calendar

## 2023 Calendar

Meetings 3pm at OSC | Kids' Fossil Blast and alternative time and location noted when applicable.

See inside for more information

January 14th  
February 25th  
March 25th  
April 8th—Field Trip Pg 2  
May 20th  
June 24th  
August 26th  
September 23rd  
October 28th  
November 11th  
December Holiday Party - tba

### Mark Your Calendar

National Fossil Day 2023,  
October 11

Highlights the scientific and educational value of paleontology and the importance of preserving fossils for future generations. <https://www.nps.gov/subjects/fossilday/>

2023 Fossil Fair  
October 21st & 22nd

Join Our Facebook group:

[www.facebook.com/groups/floridafossilhunters](https://www.facebook.com/groups/floridafossilhunters)



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

Email [info@floridafossilhunters.com](mailto:info@floridafossilhunters.com) to share articles, questions & comments

## Florida Fossil Hunters

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# Florida Fossil Hunters News