NEWS
Florida Fossil Hunters

Volume 18, Number 11 December 2008

Prez Sez:

Happy Holidays everyone!!!!

Congrats to our new Prez and officers! I know this year will be exciting. I want to thank everyone for their support over the last 2 years as I step down and welcome Jimmy Waldron to the Presidency.

Bring your favorite covered dish to Dave Dunnaway's house for our Holiday Party. Don't forget your fossil bucks to buy some great fossils. New members and kids have their own fossil selections to bid on so even if you just joined you can participate. *(more info on page 2)*

Field trip Report-
If you arrive after 9 am, YOU ARE LATE. Do not enter the mine and drive around looking for us!! This is a security issue. Please do not endanger our privledge of visiting Vulcan Mine. If you cannot be there on time, reconsider coming on the field trip.
The next Vulcan Mine trip is Dec. 13.

See you at the party!
Shelley

December Meeting
at Dave Dunaway's house

Next Kid's Blast Meeting
February 2009

Coming Events

December 17
Meeting, Fossil Bucks Auction and Christmas Party
7:00pm at Dave Dunaways
(See page 2 for location and more info)

January 21, 2009
7:00pm

February 18, 2009
6:00pm Kid's Fossil Blast
7:00pm Meeting

For more info...
www.floridafossilhunter.com

Meetings held at the Orlando Science Center

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Fragments

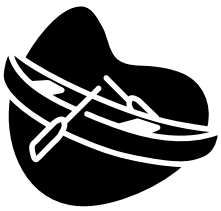
Passing of the Torch
(or maybe a dugong rib would be more appropriate)

Shelley Zimmerman has served as the President of the club for the past two years. We want to acknowledge all her hard work and all the hours she put in to make our group meetings, field trips and fossil fairs so enjoyable and interesting.

Thank you, Shelley.
You have done a fantastic job.

Jimmy Waldron will be taking over as our new President.

Piece on the Peace
The river level is very, very low. If you can brave the cooler air and water, you'll be able to dig in areas that haven't been dug before. So put on your wetsuits, waders or whatever you can and get out there and hunt.



Ask the Paleontologist, we are starting a new column where you can have your questions answered by a Paleontologist. Just submit you question by the first of the month via email to info@floridafossilhunters.com

2009 Holiday Party & Fossil Auction

Bring your favorite yummies to share and the fossil bucks you earned this year. The fun begins at 5 pm with the arriving of the people with the food and eating as much as we can. Then we'll have the auction and the tour of the fort and maybe even fireworks.

The festivities will take place at Dave Dunaway's house, 600 Ferne Dr., Longwood, 32779. Take I-4 to the Rte. 434 exit. Go west on 434 to Markham Woods Rd. Turn right and go north on Markham Woods to the traffic light. Turn right onto E.E. Williamson Rd. and then turn right onto the first street, Ferne Dr. Dave's house is at the end of the road on the left (the one with all the Christmas lights).

Kids' Fossil Blast

Is there a special fossil that you'd like to learn about? Is there a type of animal or age of the past that fascinates you? If so, let us know at info@floridafossilhunters.com and maybe we can plan a program on that subject.

Our next kids' program will be on Wednesday, February 18th at 6 pm.

Congratulations to Melissa Cole
for being chosen as Teacher of the Year
at Milwee Middle School
where she daily inspires kids
to learn more about science.

Mineral and Fossil Shows and more:

Withlacoochee Rockhounds will have their 34th Annual Mineral & Gem Show on Dec. 5th through 7th at 13383 County Line Rd, Spring Hill, Florida (Hernando County.) For more info call 352-688-9399 or email LauParaMin@aol.com

The Fossil Club of Lee County will hold its Fossil Show 2008 on Saturday, December 6th, from 9 am to 5pm at the Calusa Nature Center , 3540 Ortiz Ave., Ft. Myers. There will be a kids' fossil dig, raffles, silent auctions and talks by Dr. Charles O'Connor. Admission is $2 for adults, $1 for children. For more info go to www.fcolc.com

The Tomoka Gem and Mineral Society will hold their show at the Volusia County Fairgrounds in Deland on January 17 & 18th, 2009.

The ***Gulf Coast Mineral, Fossil & Gem Club will host its show*** on January 24th and 25th at the Venice Community Center, 300 Nokomis Ave., Venice, Florida. The hours are 10-5 on Saturday and 10-4 on Sunday. For further info, call Ralph or Eileen Marble at 941/922-2135.

The Mid America Paleontology Society (MAPS) will hold its National Fossil Exposition on April 3rd thru 5th at the Western Illinois University in Macomb, Illinois.for more information go to www.midamericapaleo.org

Tampa Bay Fossil Fest
Mark your 2009 calendars.....the Tampa Bay show will be the 7th and 8th of March.

18th Annual Thomas Farm Dig or Hummingbird Challenge V, Florida Museum Of Natural History's Spring 2009 dig will focus on the small fossils to be found. It will be held from Tuesday, March 31st through Sunday, April 5th, 2009. Space is limited. For more information go to www.ufl.edu/ponyexpress or call Dave Steadman at 352-273-1968.

VULCAN FIELD TRIP

December 13th, 2008
You must be a member to attend! More info on website.

On the Peace River...

Above: Dr. Glynn Hayes, his geology students and volunteers from the club hunt for fossils on November 8th.

Diggin' on the Peace, In spite of some chilly weather and overcast skies, there was a good turnout of club members on Sunday, November 2nd to help Dr. Glynn Hayes and his Geology students on the Peace River. Shelley Zimmerman, Dave Cass, Dave Dunaway, John Jelks, Valerie First, Marge Fantozzi, Bonnie Cronin and Russell Brown brought their extra screens, shovels, some boats and their expertise to make the students' day a successful one.
Thanks to all of you for your great support.

Top row, Left: Marge demonstrates her non-dig method of hunting. Right: Shelley steadies the sifter for Dave Cass as he digs.

Bottom row left:
Russell gives the sign of victory while helping a couple of the students.

Bottom row middle:
Glynn Hayes students,
Still smiling.....

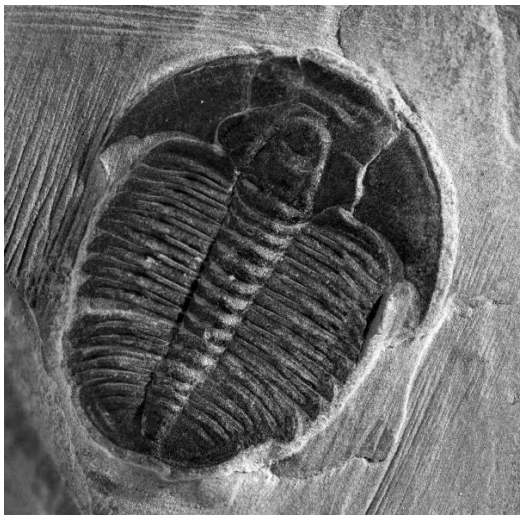
Bottom row right: Dave Dunaway ferries a group upriver.

Mineral Kingdom has Co-evolved with Life

ScienceDaily (Nov. 14, 2008)

Evolution isn't just for living organisms. Scientists at the Carnegie Institution have found that the mineral kingdom co-evolved with life, and that up to two thirds of the more than 4,000 known types of minerals on Earth can be directly or indirectly linked to biological activity.

The finding, published in American Mineralogist, could aid scientists in the search for life on other planets.



Elrathii kingii trilobite from the middle Cambrian period, approximately 550 million years BCE. Found in a sandy shale formation south of Salt Lake City, Utah. (Credit: Russell Shively)

Robert Hazen and Dominic Papineau of the Carnegie Institution's Geophysical Laboratory, with six colleagues, reviewed the physical, chemical, and biological processes that gradually transformed about a dozen different primordial minerals in ancient interstellar dust grains to the thousands of mineral species on the present-day Earth. (Unlike biological species, each mineral species is defined by its characteristic chemical makeup and crystal structure.)

"It's a different way of looking at minerals from more traditional approaches," says Hazen. "Mineral evolution is obviously different from Darwinian evolution—minerals don't mutate, reproduce or compete like living organisms. But we found both the variety and relative abundances of minerals have changed dramatically over more than 4.5 billion years of Earth's history."

All the chemical elements were present from the start in the Solar Systems' primordial dust, but they formed comparatively few minerals. Only after large bodies such as the Sun and planets congealed did there exist the extremes of temperature and pressure required to forge a large diversity of mineral species. Many elements were also too dispersed in the original dust clouds to be able to solidify into mineral crystals.

As the Solar System took shape through "gravitational clumping" of small, undifferentiated bodies—fragments of which are found today in the form of meteorites—about 60 different minerals made their appearance. Larger, planet-sized bodies, especially those with volcanic activity and bearing significant amounts of water, could have given rise to several hundred new mineral species. Mars and Venus, which Hazen and coworkers estimate to have at least 500 different mineral species in their surface rocks, appear to have reached this stage in their mineral evolution.

However, only on Earth—at least in our Solar System—did mineral evolution progress to the next stages. A key factor was the churning of the planet's interior by plate tectonics, the process that drives the slow shifting continents and ocean basins over geological time. Unique to Earth, plate tectonics created new kinds of physical and chemical environments where minerals could form, and thereby boosted mineral diversity to more than a thousand types.

What ultimately had the biggest impact on mineral evolution, however, was the origin of life, approximately 4 billion years ago. "Of the approximately 4,300 known mineral species on Earth, perhaps two thirds of them are biologically mediated," says Hazen. "This is principally a consequence of our oxygen-rich atmosphere, which is a product of photosynthesis by microscopic algae." Many important minerals are oxidized weathering products, including ores of iron, copper and many other metals.

Microorganisms and plants also accelerated the production of diverse clay minerals. In the oceans, the evolution of organisms with shells and mineralized skeletons generated thick layered deposits of minerals such as calcite, which would be rare on a lifeless planet.

"For at least 2.5 billion years, and possibly since the emergence of life, Earth's mineralogy has evolved in parallel with biology," says Hazen. "One implication of this finding is that remote observations of the mineralogy of other moons and planets may provide crucial evidence for biological influences beyond Earth."

Stanford University geologist Gary Ernst called the study "breathtaking," saying that "the unique perspective presented in this paper may revolutionize the way Earth scientists regard minerals."

How Did Turtles Get Their Shells?

Oldest Known Turtle Fossil, 220 Million Years Old, Give Clues

ScienceDaily (Nov. 27, 2008)

With hard bony shells to shelter and protect them, turtles are unique and have long posed a mystery to scientists who wonder how such an elegant body structure came to be.

Since the age of dinosaurs, turtles have looked pretty much as they do now with their shells intact, and scientists lacked conclusive evidence to support competing evolutionary theories. Now with the discovery in China of the oldest known turtle fossil, estimated at 220- million-years-old, scientists have a clearer picture of how the turtle got its shell.

Working with colleagues in China and Canada, Olivier Rieppel, PhD, chairman of The Field Museum's department of geology, has analyzed the Chinese turtle fossil, finding evidence to support the notion that turtle shells are bony extensions of their backbones and ribs that expanded and grew together to form a hard protective covering.

The fossilized turtle ancestor, dubbed Odontochelys semitestacea (translation: half-shelled turtle with teeth), likely lived in the water rather than on land.

A report from Chun Li of the Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences in Beijing, and Xiao-Chun Wu of the Canadian Museum of Nature in Ottawa, along with Field's Rieppel, will appear in the journal Nature. Other co-authors include Li-Ting Wang of the Geological Survey of Guizhou Province in Guiyang, China, where the fossil was discovered and Li-Jun Zhao of the Zhejiang Museum of Nature History in Hangzhou, China.

Prior to discovery of Odontochelys, the oldest known turtle specimen was Proganochelys, which was found in Germany. Because Proganochelys has a fully-formed shell, it provides little information about how shells were formed. Odontochelys is older than Proganochelys and is helpful because it has only a partial shell, Rieppel said.

"This is the first turtle with an incomplete shell," Rieppel said. "The shell is an evolutionary innovation. It's difficult to explain how it evolved without an intermediate example."

Some contemporary reptiles such as crocodiles have skin with bony plates and this was also seen in ancient creatures such as dinosaurs. Some researchers theorized that turtle shells started as bony skin plates, called osteoderms, which eventually fused to form a hard shell.

There are problems with this idea, including studies of how shells form in turtle embryos as they develop within eggs, Rieppel said. Embryo studies show that the turtle backbones expand outward and the ribs broaden to meet and form a shell, he said.

While paleontologists take such studies into account, they aren't sufficient to prove how anatomy evolved over time, and evidence can be read in different ways. The limbs of Proganochelys, for example, show signs of bony plates in the skin.

But Odontochelys has no osteoderms and it has a partial shell extending from its backbone, Rieppel said. It also shows a widening of ribs. Although Odontochelys has only a partial shell protecting its back, it does have a fully formed plastron – complete protection of its underside – just as turtles do today.

This strongly suggests Odontochelys was a water dweller whose swimming exposed its underside to predators, Rieppel said. "Reptiles living on the land have their bellies close to the ground with little exposure to danger," he said.

Other arguments favor the notion that turtle shells evolved as extensions of the reptile's backbones and ribs, Rieppel said, but the partial shell of Odontochelys speaks very clearly.

"This animal tells people to forget about turtle ancestors covered with osteoderms," he said.

Adapted from materials provided by Field Museum, via EurekAlert!, a service of AAAS.

Image: Life reconstruction of Odontochelys semitestacea, an ancestral turtle from the Triassic of China. (Credit: Marlene Hill Donnelly / Copyright Field Museum)

December 2008 Fossil Bucks Auction

☐		1. Polished Mammoth tooth
☐		2. Citrine & quartz crystals in matrix
☐		3. Agatized coral
☐		4. T-Rex puppet
☐	N	5. Camel tooth
☐	J	6. Shark tooth cast
☐		7. Fossilized mangrove lobster
☐		8. Boulder opal
☐		9. Whale vertebrae
☐		10. Fossil T-shirt, large (donated by Pam Flesher)
☐	N	11. "Dinosaur Plate" book (donated by Marsha Wright)
☐	J	12. Pteranodon dinosaur puzzle (donated by Marsha Wright)
☐		13. Shark tooth necklace
☐		14. Arizona petrified wood
☐		15. Deer antler and tooth in display case (donated by Dave Cass)
☐		16. Polished Orthoceras
☐	N	17. Glossotherium sloth tooth
☐	J	18. Triceratops dinosaur puzzle (donated by Marcia Wright)
☐		19. Large megalodon shark tooth
☐		20. Shark tooth necklace
☐		21."South Florida Fossil Seashells" book, autographed
☐		22. Woolly mammoth plush toy
☐		23. 1890's antique liquor bottle (donated by Roy Singer)
☐		24. Fossil case
☐		25. Mammoth figure in bottle

J - Junior members only (kids under 14)

N - New members only (joined the club within the last year)

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	Shelley Zimmerman	(407) 891-1260
Vice President	Paul Bordenkircher	(407) 687-3843
Secretary		
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 ID Table	Andreas Kerner, intlfossils@msn.com	
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
Membership	Melissa Cole	(407) 834-5615
	Joanne Maio	(407) 375-3635
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 Directors:

Dave Dunaway	(407) 786-8844
Jeremy Smith	(407) 293-9391
Roy Singer	(407) 645-0200
Ed Metrin	(407) 321-7462
Tom Tomlinson	(407) 290-8474

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

December 5 - 7
Withlacoochee Rockhounds
34th Annual Mineral & Gem Show

December 6
The Fossil Club of Lee County, 2008 Fossil Show

Wednesday, December 17
7:00pm Meeting—*See page 2 for more info*

Vulcan Field Trip dates:
December 13th, 2008

January 17 & 18, 2009
The Tomoka Gem and Mineral Society Show

Wednesday, January 21, 2009
7:00pm Meeting

January 24th and 25th
Gulf Coast Mineral, Fossil & Gem Club show

February 18, 2009
6:00pm Kid's Fossil Blast
7:00pm Meeting

March 7 - 8, 2009
Tampa Bay Fossil Fest

March 31 - April 5, 2009
18th Annual Thomas Farm Dig or
Hummingbird Challenge V

April 3 thru 5, 2009
The Mid America Paleontology Society (MAPS)
National Fossil Exposition

More information on these events on page 2

Visit us online at www.floridafossilhunters.com

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Florida Fossil Hunters News