



Florida Paleontological Society, Inc. Newsletter

Summer 2019
Volume 34, No. 1



View of the BASF Willacoochee Mine in southern Georgia

Spring Meeting 2019— by Curtis R. Klug

The Florida Paleontological Society's trip to the Quincy, Florida area to collect fossils from the Torreya Formation went off without a hitch. Well, no, I tell a lie. There was one small hitch; Hurricane Michael.

Hurricane Michael began as a broad, slowly-developing low-pressure area on October 1st, 2018. On October 7th, it became a tropical depression and, the next day, achieved hurricane status off the western tip of Cuba. It then rapidly barreled northward through the Gulf of Mexico intensifying all the way. Two days later, on October 10th, it made landfall as a category 5 hurricane at Mexico Beach, Florida, roughly 75 miles southwest of Tallahassee. It moved northeastward over land, with the center of the storm passing approximately 25 miles northwest of Quincy, Florida and even closer to Bainbridge, Georgia, the intended meeting place for the October 2018 FPS trip. The impact of Michael was so devastating to the area that the cancellation of the October trip, which had been scheduled for the 26th-28th, likely came as a surprise to no one.

The second attempt by the FPS to visit the area six months later fared much better. The FPS Spring 2019 meeting was held from April 26th - 28th. It convened in Quincy, Florida on the evening of April 26th. On the morning of the 27th, following a short drive north into southern Georgia, the attendees gathered at the Willacoochee Mine to collect fossils from the lower Miocene Torreya Formation. With a high temperature of 81°F, no precipitation and winds less than 15 mph, weather conditions were noticeably better than they had been the previous October.

Spring Meeting 2019, continued

Harley Means of the Florida Geological Survey, provided a very informative overview of what was to be found in the pit. A wide range of lithologies was encountered including red sands, fossiliferous gray sands, dolosilt, clays, and fossiliferous limestones.

The primary mining objective at the pit is the absorptive "fuller's earth" type clay. Fuller's earth clays were originally used in the process of fulling, the process of removing oils and grease from sheep's wool. Nowadays, the clays from the Willacoochee Mine are primarily used in the production of cat litter but have other uses as well including the manufacture of paints and drilling muds. This last-mentioned use is noteworthy in that the particular clays mined in the pit will not congeal in saltwater as will the more typical bentonite type drilling muds. Consequently, these clays can be used to drill through strata in which saltwater will be encountered.

Fuller's earth was first discovered near Quincy, Florida in 1893. In less than 50 years, the Quincy area was responsible for half of the U. S. production. The particular clay minerals of interest in the Willacoochee Pit are palygorskite (aka attapulgite) and sepiolite. Incidentally, the term "attapulgite" derives from the nearby town of Attapulgus, Georgia.

As it turned out, most of the attendees of the FPS trip were not there to marvel at the clays. Most were more interested in the fossils of the lower Miocene Torreya Formation. Molluscan fossils are the most abundant encountered at the mine, particularly in the limestones of the lower part of the section, but they are also locally abundant in some of the clayey sands. Figure A shows gray sands with abundant but poorly preserved aragonitic shells, including *Lirophora latilirata* (Conrad, 1841).

Figure B (page 4) shows a sampling of some of the fossils collected but is admittedly a poor representation of the diversity of the species that occur at the pit. Organisms with aragonitic shells are badly underrepresented in the figure despite the fact that they make up the bulk of the fauna. Unfortunately, the aragonitic shells of most of the mollusks at the Willacoochee Mine have been lost through dissolution and these organisms are now represented primarily by internal and external molds. Internal molds (steinkerns) may be easy to collect but generally provide only part of the information needed for identification purposes. The rest of the information lies with the external molds but those can be very difficult to collect.

To do so, one must collect relatively large amounts of rock for the enclosed holes. Nevertheless, valuable information can be obtained from the combination of these internal and external molds.

In the figure, aragonitic forms are represented by the steinkerns of *Bulla* sp., *Perna* cf. *P. conradiana* (d'Orbigny, 1852), and *Clementia grayi* Dall, 1900. It may be worthy to note that the shell of *Clementia grayi* is typically so thin that the steinkern strongly resembles the outer surface of the shell.

Organisms with calcitic skeletons such as oysters, pectens, and barnacles were largely preserved intact at the pit. The specimen in the figure assigned to *Lindapecten acanikos* bears threads or secondary costals that are better developed than in the similar *Lindapecten chipolanus* (Dall, 1898) from the Alum Bluff Formation. However, those threads or secondary costals are not developed in the early part of the figured shell, a feature that would seem to be more characteristic of the latter species.

Most of the oysters in the figure (c, d, j, k, l, m, t, and u) belong to *Cubitostrea pauciplicata* (Dall, 1898). Although left and right valves are illustrated, no paired valves were found. The small oyster in figures e and f is a left valve that bears some similarity to *Cubitostrea pauciplicata* but has more tightly folded plicae and thicker sides with well-developed chomata that extend to mid-shell length or beyond. The chomata in the other specimens are poorly-developed and restricted to near the umbonal region of the shells.



Figure A. Sediments containing common molds of mollusks

Vertebrate fossils were also recovered from the quarry, including rays, sharks, and other fish teeth, but the Torreya Formation has produced a variety of other vertebrate fossils as well. The fossil dugong skeleton on display in the lobby of the Walter Schmidt Museum at the Florida Geological Survey stands in testimony to that claim. And it was there that the participants reconvened after leaving the pit.

At the facilities of the Florida Geological Survey, the attendees were treated to a copious buffet of barbecue (*sensu lato*), sides and desserts. When all appetites were sated, the attendees were further treated to a couple excellent research presentations.

Carmi Thompson spoke on the remarkable Cenozoic nautiloid *Aturia* and Victor Perez talked about the abundant but badly understudied shark teeth of Florida. Harley Means presented an overview of the Florida Geological Survey and the services provided to the state. Roger Portell, Harley, Carmi, and all the others who contributed to the success of this trip should be highly commended for their efforts.

The presentations were followed by a silent auction to benefit the Gary Morgan Award for Student Research. Nearly four hundred dollars were raised—thank you to everyone who participated and thank you to Barbara Fite, Phil Whisler, Bonnie Cronin, Russell Brown, Jon Bryan, Harley Means, and all the others who contributed auction items.



Bottom of Willacochee Mine

Spring Meeting 2019, continued



Figure B. Select fossils of the Torrey Formation from the Willacoochee Pit: (a, b) *Lindapeecten acanikos* (Gardner, 1926) left valve; (c, d) *Cubitostrea pauciplicata* (Dall, 1898) left valve; (e, f) unidentified oyster left valve; (g, h, i) ray pavement teeth; (j, k) *Cubitostrea pauciplicata* (Dall, 1898) left valve; (l, m) *Cubitostrea pauciplicata* (Dall, 1898) right valve; (n, o) *Cypraea* sp. (juvenile) steinkern (ID by Roger Portell, FLMNH) ; (p, q) *Clementia grayi* Dall, 1900 steinkern; (r, s) *Concavus?* sp.; (t, u) *Cubitostrea pauciplicata* (Dall, 1898) right valve; (v) *Perna* cf. *P. conradiana* (d'Orbigny, 1852) steinkern

FLORIDA PALEONTOLOGICAL SOCIETY

OFFICERS AND BOARD

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Treasurer: Phil Whisler, Florida Museum of Natural History, Box 117800, Gainesville, FL 32611, treasurer.fps@gmail.com

BOARD OF DIRECTORS

Bonnie Cronin, Groveland, 2019

Russell Brown, Groveland, 2019

Chuck Ferrara, Venice, 2020

Carol Peterson, Cocoa, 2020

Bernie Peterson, Cocoa, 2020

Paul Roth, Wilmington, DE, 2021

Harley Means, Tallahassee, 2021

Curt Klug, Matlacha, 2021

COMMITTEES AND APPOINTMENTS

Book Committee: R. Portell

Finance: P. Whisler, R. Portell

Membership: Carmi Thompson

Honorary Members and Awards: P. Roth

Board of Editors: R. Portell, Carmi Thompson, Jan Pullum, Curtis Klug

Resident Agent: R. Portell

HONORARY MEMBERS

Robin Brown, Gordon Hubbell, Clifford Jeremiah, Gary Morgan, Thomas M. Scott,, David Webb, Marcia Wright

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Barbara Fite, Joan Herrera, Richard Hulbert, Daniel Murray, Leslie Newberry, Roger Portell, Debra Powell, Craig Samuel, Laurie Samuel, James Toomey, Barbara Toomey

INFORMATION, MEMBERSHIP, AND PUBLICATIONS

Address: Secretary, Florida Paleontological Society, Inc.

Florida Museum of Natural History, P.O. Box 117800

University of Florida, Gainesville, FL 32611-7800



Gabi Hein (above) soaking up the shade



Phil Whisler (above) wanting to take this dump truck home (he had the smaller version as a child)

Ed DeRouin (right)
looking like he
wallowed in mud?



FPS members (bottom) scouring spoil piles for vertebrates





Close up of moldic limestone with Tupperware container for scale

UF students
Victor Perez and
Michael Ziegler
with Bill Howat
talking shark
teeth while Cindy
Lockner keeps
watch





Walt Loomis (BASF), Howard Kirk (retired BASF employee), and Roger Portell examine a map of the Wilacoochee Mine

FPS members and BASF employees listen intently to guidelines for fossil collecting in the mine



FLORIDA PALEONTOLOGICAL SOCIETY, INC.

As stated in the Articles of Incorporation, "The purposes of this Corporation shall be to advance the science of Paleontology, especially in Florida, to disseminate knowledge of this subject and to facilitate cooperations of all persons concerned with the history, stratigraphy, evolution, ecology, anatomy, and taxonomy of Florida's past fauna and flora. The Corporation shall also be concerned with the collection and preservation of Florida fossils." (Article III, Section 1).

CODE OF ETHICS

ARTICLE X

Section 1. Members of the Florida Paleontological Society, Inc., are expected to respect all private and public properties.

Section 2. No member shall collect without appropriate permission on private or public properties.

Section 3. Members should make a sincere effort to keep themselves informed of laws, regulations, and rules on collecting on private or public properties.

Section 4. Members shall not use firearms, blasting equipment or dredging apparatuses without appropriate licenses and permits.

Section 5. Members shall dispose of litter properly.

Section 6. Members shall report to proper state offices any seemingly important paleontological and archaeological sites.

Section 7. Members shall respect and cooperate with field trip leaders or designated authorities in all collecting areas.

Section 8. Members shall appreciate and protect our heritage of natural resources.

Section 9. Members shall conduct themselves in a manner that best represents the Florida Paleontological Society, Inc.

Section 10. Members shall not discard any foreign materials (such as emptying buckets/bags from a previous collecting trip) that would cause cross contamination at any site, potentially endangering future research data.



Mike Hein (top) poses with a chunk of limestone, Marge Fantozzi and Bill Howat (bottom) discuss fossils during a break in collecting





The FPS 2019 Spring Field Trip Attendees pose for a picture before descending into the mine

ANNUAL DUES for the FPS are \$10.00 for Associate Membership (persons under age 18) and \$20.00 for Full Membership (persons over age 18) and Institutional Subscriptions. Couples may join for \$25.00, and Family Memberships (3 or more persons) are available for \$30.00. Persons interested in FPS membership need only send their names, addresses, and appropriate dues to the Secretary, Florida Paleontological Society, Inc., at the address on page 2. Please make checks payable to the FPS. Members receive (free) the FPS e-Newsletter and any Florida Fossil Invertebrates published during their subscription (membership). FPS Special Papers are offered (at a reduced price) to members in good standing. Additionally, there are FPS sponsored fossil collecting trips, auctions, and presentations in conjunction with our society's biannual meetings.

NEWSLETTER POLICY: All worthy news items, art work, and photographs related to paleontology and various clubs in Florida are welcome. The editors reserve the right not to publish submissions and to edit those which are published. Please address submissions to the Editors, Florida Paleontological Society, Inc. Florida Museum of Natural History, P.O. Box 117800, University of Florida, Gainesville, FL 32611-7800

Harley Means receives Florida Museum of Natural History's 2018 Howard Converse Award



The 2018 recipient, Guy Harley Means, exemplifies the meaning of outstanding contribution. Harley has donated significant specimens to all paleontology divisions at the FLMNH. His contributions of fossil mollusks, echinoids, and crabs to IP alone totals over 5,000 specimens, several of which are new to science, with some currently being described as new species. Harley's many years of FLMNH collaboration with fieldwork in Florida, Nebraska, and Jamaica; finding and reporting new fossils and fossil sites; and helping to interpret the geology of those and other sites, have been invaluable. Several of these collaborations have led to joint scientific publications, published abstracts, and field guides for professional and avocational paleontologists. Harley's dedication, providing important specimens to grow Natural History collections, desire to contribute to the science, and his passion for generating interest and public understanding of paleontology and geology are all highly commendable.

The Howard Converse Award, presented nearly every year since 1988 by the FLMNH, recognizes outstanding contributions to Florida paleontology. Individuals are nominated for the award by FLMNH staff from the Invertebrate Paleontology, Vertebrate Paleontology, and Paleobotany divisions.



FPS member Harry G. Lee receives the Katherine Palmer Award

Each year, the Paleontological Research Institution (PRI) recognizes an avocational paleontologist for the excellence of their contributions to the field. This award is named for PRI's second Director, Katherine Palmer, who was an avid supporter of avocational paleontology. Florida Museum of Natural History (FLMNH), Invertebrate Paleontology and Micropaleontology Division's (IP) volunteer, Dr. Harry G. Lee of Jacksonville, FL was selected as the 2019 recipient of this prestigious Award.

IP is very fortunate to be associated with many exceptional avocational paleontologists. However, Dr. Lee is in a class unto himself. He is a walking encyclopedia, is well versed in Latin, and is a font of historical, taxonomic, and other arcane molluscan knowledge that he shares generously.

Harry has been involved with our fossil and modern invertebrate collections since 1976 and has made substantial investments of his time, collections, money, and support to not only the FLMNH, but other natural history institutions including PRI, the Bailey-Matthews National Shell Museum in Sanibel, FL, and the Museum of Science and History in Jacksonville, FL.

Some of Dr. Lee's specific contributions to the FLMNH include:

- Driving from Jacksonville to Gainesville each week to volunteer in the IP, so far recording over 2,500 hours, most of it spent hunched over a microscope sorting and identifying fossils of Plio-Pleistocene micro-mollusks belonging to hundreds of species.
- Providing expert-level identification of modern mollusk shells for the FLMNH, Division of Invertebrate Zoology (IZ), which then serve as useful reference specimens for further identification work. He has also donated large portions of his huge personal collection of marine, land, and freshwater mollusk shells to this collection.

More broadly, Dr. Lee has contributed to the public awareness of natural history by being one of the most giving and knowledgeable members of the non-professional malacological community, often answering questions on the popular Conch-L listserve and frequently contributing to the JaxShells website.

Additionally, Dr. Lee has published 73 peer-reviewed articles and a book, has described 36 taxa, and had 18 species named in his honor.

Finally, Harry is currently working on finishing a taxonomic monograph that will--for the first time--describe and characterize the rich fauna of micro-mollusks from the famously diverse Plio-Pleistocene Tamiami Formation, Pinecrest beds of southern Florida.

Congratulations to the 2018 Morgan Award Winner—Victor Perez!

Chondrichthyan Diversity and Paleoecology from Florida (Eocene–Pleistocene)

By Victor Perez

Florida's fossil record of sharks and rays spans from the Eocene through the Pleistocene (~45 million years). Over this time, there have been a number of major climatic events that caused impacts globally. For my dissertation research, I am interested in how shark and ray diversity changed in response to two of these events: the Eocene-Oligocene Transition (EOT) and the Middle Miocene Climatic Optimum (MMCO). The EOT represents the largest global cooling event over the past 45 million years and is marked by a major extinction of planktic foraminifera, which may have cascading trophic effects on chondrichthyan diversity. The MMCO reflects the largest warming event over the past 45 million years and is associated with high abundance of chondrichthyans in other localities, such as the Calvert Cliffs in Maryland and Shark Tooth Hill in California. Further, the MMCO is often considered an important analog for current global warming and may offer insight into how marine communities will be impacted in the near future.

In order to document diversity trends across these major climate events, I first conducted a comprehensive review of existing records. Despite their popularity, abundance, and utility in interpreting paleoenvironments and paleoecology, the fossil record of Floridian sharks and rays remains poorly documented. The Florida Museum, the official state repository for natural history collections, houses more than 100,000 chondrichthyan specimens from Florida, most of which have not been documented in peer-reviewed literature. As such, the first section of my dissertation uses the Florida Museum's Specify Database to provide a review of all chondrichthyan taxa from the state, with a particular focus on taxonomic and functional diversity through time.

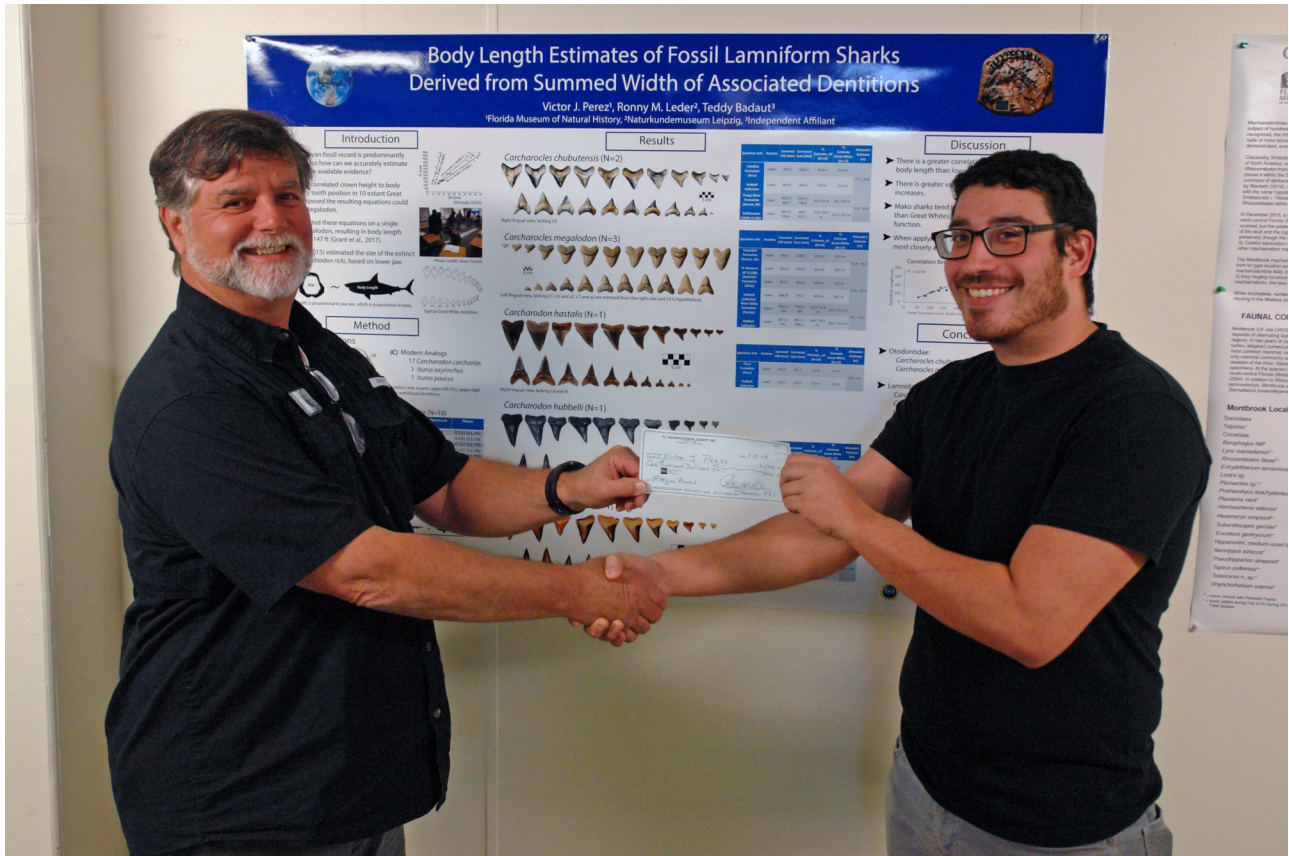
The opportunity to collect fossils in Florida draws in fossil enthusiasts from across the state, country, and, sometimes, world. Collectors are required to have a permit to collect vertebrate fossils in Florida; however, shark teeth do not fall within the purview of this permit and can be freely collected by anyone. This exception is a reflection of their abundance but also highlights the lack of research interest. Consequently, private avocational paleontology collections have incredible potential for possessing novel and/or scientifically significant specimens that have gone unnoticed. This was recently made evident by the documentation of the Cookiecutter Shark, *Isistius*, and the Angel Shark, *Squatina*; both of which had been known to the avo-

ational community for well over a decade but were not reported in peer-reviewed literature until 2017. This serendipitous discovery was made when avocational collector Ken Marks contacted the Florida Museum inquiring about the age of the fossil site where he had found the teeth. Ken Marks and I collaborated to document these new records, and are continuing to do so with another manuscript in the works that will report at least four more new records for the Florida chondrichthyan fossil record.

With this in mind, I intend to supplement the Florida Museum's compilation of Florida's chondrichthyan fossil record by visiting avocational collections to further expand comprehension of chondrichthyan diversity through time. This will be done by visiting clubs, organizations, and societies throughout Florida, such as the Florida Fossil Hunters, the Southwest Florida Fossil Society, the Fossil Club of Lee County, and the Tampa Bay Fossil Club. As such, I applied for this scholarship in to receive support for travel and lodging to visit avocational paleontology collections throughout Florida.

Along with research on chondrichthyan diversity of Florida, my dissertation has two auxiliary components. The first aims to establish a new method for estimating body size of fossil lamniform sharks, including iconic species such the Great White Shark and Megalodon, to gain a better understanding of the ecological role of these apex predators. This new method is based on fossil associated dentitions, which are exceedingly rare; however, the largest collection of these dentitions happens to reside in the private, avocational Hubbell Collection here in Gainesville, Florida. I would also like to visit other museum collections, such as the Aurora Fossil Museum and the North Carolina Museum of Natural Sciences, to expand this dataset. The second auxiliary aspect of my dissertation research translates components of my research into a shark-themed summer camp for elementary school students. The purpose of this camp is to expose students to STEM (science, technology, engineering, and mathematics) careers by allowing them to participate in authentic research practices.

Victor is a graduate student at the University of Florida in the Departments of Natural History and Geology. He plans to graduate in Spring 2020, with a PhD in Geological Sciences and minors in Biology and Science Education.



Roger Portell awarding Victor Perez the Gary Morgan Award in front of Victor’s research poster. The Gary S. Morgan Award is funded by the FPS and the Florida Fossil Hunters and provided to outstanding students (undergraduate or graduate) at any Florida University or College for promoting paleontology through new research discoveries.

Spring Board Meeting // Tallahassee, Florida // 28 April 2019

Sunday morning, the BOD meeting was held at the Florida Geological Survey (FGS) Core Repository in Tallahassee, FL. Present at the meeting were (see page 5 for position held):

Cindy Lockner
Michael Reagin
Laura Pullum
Chuck Ferrara
Phil Whisler
Roger Portell
Carmi Thompson

The meeting was called to order at 8:08 AM EST by the President, Michael Reagin.

Treasurer's Report (presented by Phil Whisler):

BANKING SUMMARY

We are doing OK overall. This meeting was fairly inexpensive, due to being hosted by the FGS, and even with student awards and other costs, our expenses have been standard (no large charges or other great expenditures). Further items for budget/banking to be discussed later in the meeting.

BALANCE SHEET

Currently, our one year (2018/2019) income/expense balance is slightly in the red (~\$64.00). However, considering that we are a non-profit and our goal is to educate and inform, we are doing great.

As a side note, future funding of educational kits was tabled until Paul Roth could join the discussion. There was some hesitation among board members to continue providing maintenance/fossils to NPS if no feedback and no input provided on their end. Cindy volunteered to reach out to Paul re: fossil kit progress.

INVENTORY

Prior to the spring meeting, an inventory of items (specifically publications for sale) was conducted by Phil Whisler, Roger Portell, and Carmi Thompson at the FPS storage facility. Roger Portell made the suggestion to divest of excess publications and keep only 50 copies of each older publication (specifically, FSF 1-8 and FFI 1-8). The current plan is : contact board members in early May to see if interest/outreach amongst board members, then Michael Reagin (with assistance from Carmi) will contact the presidents of other fossil organizations who may be interested in acquiring these publications. Based on shipping costs, each box will contain 8 copies of each FFI, and 5 copies of FSF (\$20 shipping cost per box).

Funding for future FFIs is undetermined at this time. Roger will discuss with Jim Toomey if he is willing to continue to support of publishing FFIs for the society. Currently, it costs between \$1,200 and \$2,000 to print each FFI.

Old Business:

Officer Nominations and Vacancies: As several of the board positions are set to expire, the executive board discussed candidates.

Vice President: Roger Portell nominated Laura Pullum for the position of Vice President and Chuck Ferrara seconded the nomination. Pending acceptance of the position, Laura Pullum will assume this role going forward.

Board Member Opening 1: Roger Portell nominated Harley Means (FGS) as a Board Member. Cindy Lockner seconded the nomination.

Board Member Opening 2: Roger Portell nominated Curt Klug. Cindy Lockner seconded the nomination.

Jack Boyce and Paul Roth were discussed as other potential board members; current members of the board (not present for meeting) will be contacted regarding extension (or not) of their terms. The FPS website will be updated accordingly once officer positions are accepted and the board of directors is finalized.

New Business:

FPS Inventory, Storage, and Archival

FPS needs to purchase a laptop and hard drive that will be specifically used for club business.

Older FPS material (newsletters, publications, photographs) need to be digitized for future FPS boards and general membership access.

?Could potentially hire undergraduate to scan and take care of organizing archival material.

Laura Pullum proposed, additionally, having a form of online storage (“the cloud”) for FPS archival material. Based on these discussions, a plan of action was constructed: sort archival materials into categories (for example: tax forms, photos, newsletter, etc.), have material scanned (either by Micrographics, Inc. or a student worker), back up material onto three levels: laptop, external hard drive, and cloud storage. Roger Portell volunteered to handle purchase of laptop and hard drive, while Laura Pullum volunteered to investigate cloud storage.

Roger asked for approval by the board to destroy any financial records over seven years, Laura Pullum seconded the motion.

MOTION (by Michael Reagin): Allocation of up to \$2,000 to include laptop, hard drive, cloud storage, professional digitization of FFIs, FSF, and other FPS publications, and hiring of student worker to assist with these processes. Phil Whisler seconded the motion, and **ALL** were **IN FAVOR**.

Public Outreach and Education

National Fossil Day 2019 is hosted by the South Florida Museum (now the Bishop Museum) rather than the Florida Museum of Natural History. Catherine Carey from the Florida Museum of Natural History will follow up with clubs who were involved in previous years and direct them to the coordinator at the Bishop Museum, Tish Sacks.

Currently, National Fossil Day is scheduled for October 19, 2019, 10 am - 5 pm. We will advertise this on our website and notify membership accordingly.

Historically, we have provided some amount of promotional material (posters, t-shirts, magnets) for the event.

MOTION (by Michael Reagin): Allocation of up to \$1,000 in support of National Fossil Day and associated materials. Laura Pullum seconded the motion and **ALL** were **IN FAVOR**.

Newsletter and related materials were discussed; Michael Reagin will be added as an administrator of the Florida Paleontological Society web page.

Online Membership

Michael Reagin proposed idea of using online payment for membership renewal, which turned into discussion of Gumroad vs. Paypal, etc.

Roger has volunteered to contact Anna as to why we are not using Paypal (advantages, disadvantages, etc.).

Further discussion of this topic was tabled until the Fall Meeting.

Field Trip

Two potential locations: Alum Bluff (most feasible- can probably accommodate 40 people, potentially all-ages can collect) and shell pit in south Florida.

Dates: November (to avoid bad weather, football games, etc.).

Currently: November 15th-17th, 2019.

Backup: November 22nd-23rd, 2019.

Fossil Display Case in Powell Hall

Cindy Lockner has graciously allowed her collection to remain on display for another year. This is due to ongoing major projects at Powell Hall.

Everyone is encouraged to encourage/nominate FPS member for display in case for the coming year.

Miscellany

The FOSSIL project will be holding a digitization workshop at the Florida Museum of Natural History in July. Michael Reagin has volunteered to participate.

The meeting was adjourned at 10:12 AM.

Junior Paleontologist Kit Sponsored by:



Florida Fossil Hunters



myFOSSIL



TOOMEY FOUNDATION
FOR THE NATURAL SCIENCES



FPS Product Sales

Prices are for current FPS members only
Shipping and Handling Extra

Books

Hulbert, Fossil Vertebrates of Florida \$31.00

Florida Fossil Invertebrates

- Part 1, Eocene Echinoids \$7.00
- Part 2, Oligocene and Miocene Echinoids \$7.00
- Part 3, Pliocene and Pleistocene Echinoids \$7.00
- Part 4, Pliocene and Pleistocene Decapod Crustaceans \$7.00
- Part 5, Eocene, Oligocene, and Miocene Decapod Crustaceans \$7.00
- Part 6, Larger Foraminifera (Introduction) \$7.00
- Part 7, Larger Foraminifera (Common Taxa) \$7.00
- Part 8, Brachiopods \$7.00
- Part 9, Mollusca (Shoal River Formation) \$12.00
- Part 10, Mollusca (Anastasia Formation) \$10.00
- Part 11, Eocene and Oligocene Corals—UNPUBLISHED
- Part 12, Mollusca (Fort Thompson Formation) (On Website)
- Part 13, Mollusca (Bermont Formation) (On Website)
- Part 14, Cephalopoda Eocene to middle Miocene \$10.00
- Part 15, Mollusca (Nashua Formation) \$10.00
- Part 16, Mollusca Pearls (early Miocene to early Pleistocene) \$10.00

Fossil Species of Florida

- Number 1, *Mammut americanum* \$1.00
- Number 2, *Tapirus veroensis* \$1.00

FPS Special Papers

Fossil Sharks and Rays of Gainesville Creeks \$10.00

T-shirt (Small - XL) Bright Yellow (Field) \$12.00

Coffee Mug \$4.00

Sales Tax (Florida residents) add 6.5%

To purchase the above items, please visit our website at:
<http://floridapaleosociety.com/publications> or contact:
fps@flmnh.ufl.edu or contact by mail: Treasurer Florida Museum of Natural History Box 117800 University of Florida Gainesville, Florida 32611-7800

*******ATTENTION*******

Please fill out your annual Fossil Permit report on vertebrate fossils that you've collected on state lands this past year. This is a requirement to renew your State of Florida permit.

www.flmnh.ufl.edu/vertpaleo/amateur-collector/fossil-permit

REMINDER: If you have not submitted your 2019 FPS dues...Now Is The Time!!!

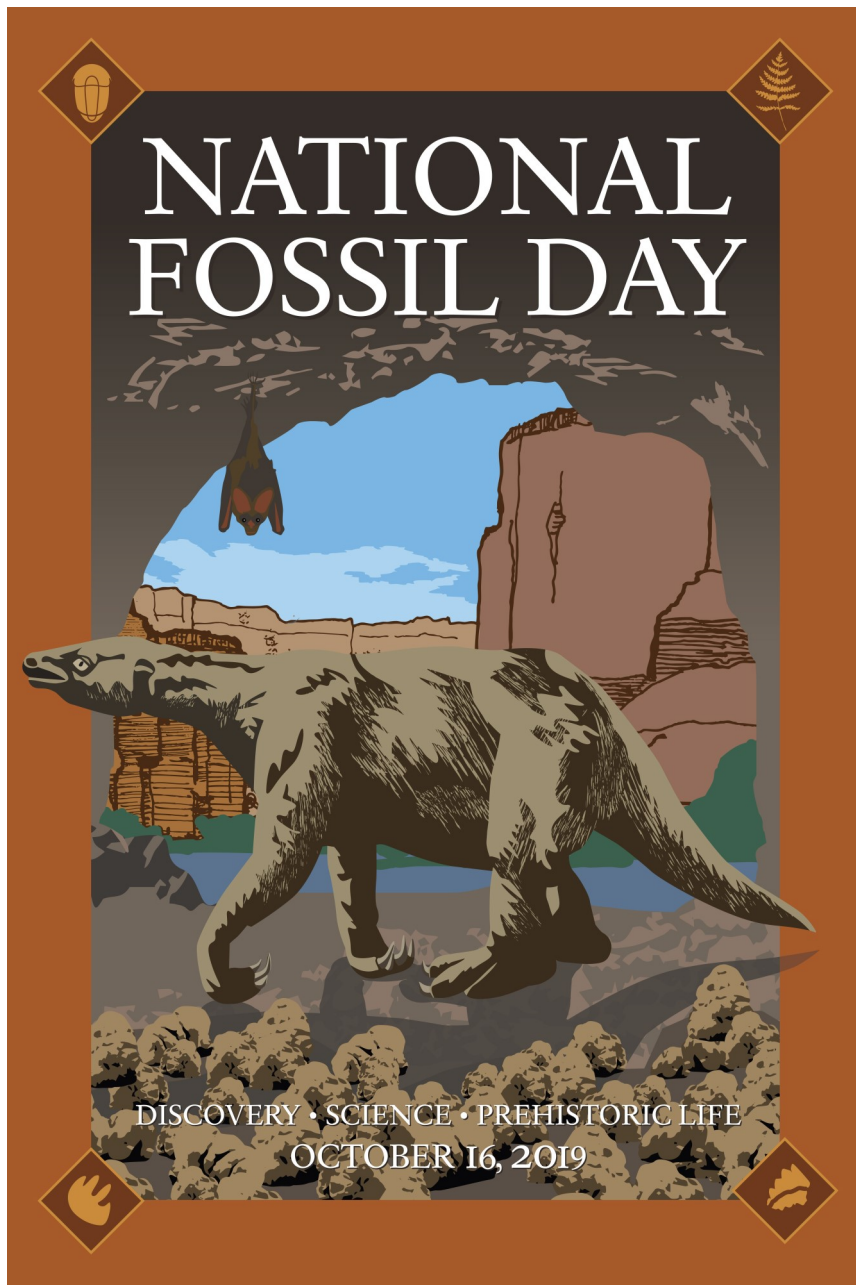


MARK YOUR CALENDAR!



The Fall Field Trip is scheduled for November 15th-17th, 2019, location TBD - mark your calendars and check your inbox for additional info in early fall. We hope you can attend!

MARK YOUR CALENDAR!



Did you enjoy celebrating National Fossil Day last year? Exciting news—National Fossil Day is now taking place at the Bishop Museum, formerly the South Florida Museum! Check out their website: <https://bishopscience.org/>. They will be holding an event to celebrate on October 19th, 2019 from 10 AM - 5PM. It is sure to be a great time—keep an eye on your inbox for information on how to volunteer.

**FLORIDA PALEONTOLOGICAL SOCIETY, INC.
APPLICATION FOR MEMBERSHIP**

Mail completed form to :

Florida Paleontological Society, Inc.
Florida Museum of Natural History
University of Florida, Box 117800
Gainesville, FL 32611-7800

New _____ Renewal _____

Name _____

Address _____

City _____ State _____ Zip Code _____

Primary Email address _____ Primary Phone #(General Contact) _____

Secondary Email address _____ Secondary Phone(Cell#For Field Trips) _____

TYPE OF MEMBERSHIP

- | | |
|--------------------------------------|---------------------------------------|
| 1. INDIVIDUAL ACTIVE (\$20.00) _____ | 2. INSTITUTIONAL (\$20.00) _____ |
| 3. COUPLES (\$25.00) _____ | 4. FAMILY (3 or more \$30.00) _____ |
| 5. LIFE (\$500.00) _____ | 6. ASSOCIATE (under 18 \$10.00) _____ |

NOTE!! MEMBERSHIPS ARE FOR A CALENDAR YEAR AND ARE DUE NO LATER THAN JANUARY 1 EACH YEAR!
PLEASE RENEW ON TIME!

BIOGRAPHICAL FACT SHEET

1. NUMBER OF YEARS OF INTEREST IN PALEONTOLOGY _____
2. WHICH BEST DESCRIBES YOUR STATUS: COLLECTOR _____ OCCASIONAL DEALER _____ FULL TIME DEALER _____
PROFESSIONAL POSITION _____ JUST STARTING _____

3. PRIMARY AREAS OF INTEREST:

	VERTEBRATE	INVERTEBRATE	BOTANY	MICRO
PLEISTOCENE	_ _	_ _	_ _	_ _
PLIOCENE	_ _	_ _	_ _	_ _
MIOCENE	_ _	_ _	_ _	_ _
OLIGOCENE	_ _	_ _	_ _	_ _
EOCENE	_ _	_ _	_ _	_ _
EARLIER	_ _	_ _	_ _	_ _

4. LIST ANY PREFERRED TYPES (Echinoids, Crabs, Horses, Sloths, Plants, etc.).

5. LIST ANY PUBLISHED WORKS ON PALEONTOLOGICAL SUBJECTS.

6. DO YOU BUY _____ TRADE _____ FIND _____ FOSSILS?

7. LIST ANY SKILLS OR ABILITIES THAT MAY BE OF USE TO THE SOCIETY'S PROJECTS (RESTORATION, PREPARATION, COMPUTER USE, GRAPHICS SKILLS, SPEAKING, PHOTOGRAPHY, PUBLIC RELATIONS, WRITING, FUND RAISING, ETC.).

8. LIST ANY UNUSUAL SPECIMENS FOUND, CIRCUMSTANCES UNDER WHICH THEY WERE LOCATED AND THEIR DISPOSITION.

PLEASE USE AN ADDITIONAL SHEET IF REQUIRED. THANK YOU!

Payments, contributions, or gifts to the Florida Paleontological Society are not deductible as charitable contributions for federal income tax purposes. Dues payments may be deductible by members as ordinary or necessary business expenses. We recommend that you consult with your tax advisor.

