



# Florida Paleontological Society, Inc. Newsletter

Spring 2023  
Volume 36, No. 1



View of flooded Ochlockonee River from Jackson Bluff.

## Spring Meeting 2022— by Mike Reagin

With record rain in the days and weeks prior to the Florida Paleontological Society's (FPS) Spring 2022 field trip to Jackson Bluff, odds were not promising of holding the trip, especially with our luck in the last couple of years with weather-related cancellations. Yet, when the Saturday event arrived, the weather could not have been better, with sunny skies albeit brisk winds and slightly cooler than normal temperatures.

Around 20 members met at the power station on the Ochlockonee River to collect at the classic Jackson Bluff locality west of Tallahassee. The collecting site itself is a gully that runs perpendicular to the bluff downstream from the Lake Talquin dam. The fossils here are from the Upper Pliocene Jackson Bluff Formation consisting of mollusks, corals, echinoids, and rare marine vertebrates. Described by Wendell C. Mansfield in Florida Geological Survey Bulletins No. 3 (1930) and No. 8 (1932) as the Choctawhatchee Formation, many of the mollusks found at this site are the same species found in the shell pits of Sarasota. However, the main attraction are mollusks species more commonly found in the Yorktown Formation in Virginia and North Carolina as well as some that are found only in the Florida Panhandle. The fauna here was obviously adapted to cooler water conditions than mollusks found in the south Florida Tamiami Formation. In years past, Roger Portell has led small groups to the base of the bluff to collect lower in the section, however with the recent rain, the water level was higher than anyone present had seen. Regardless, many different fossils were found in the tough red clay, including rare echinoids found by Harley Means.



## Spring Meeting 2022, continued

Later in the evening Harley, the Florida State Geologist, hosted the society at the Florida Geological Survey, where he described the activities and responsibilities of the Survey as well as led tours through the facility and its fossil, rock, and mineral collections. Excellent BBQ catered at the Survey by 4 Rivers Smokehouse was served with presentations by 2021 Morgan Award awardees Lazaro Willian Vinola Lopez on “Morphological and ecological changes in Florida crocodilians during the Cenozoic” and Mitchell Riegler entitled “Unveiling Patterns in Lizard Extinction from The Caribbean as Related to Pre-European Human Immigration and European Colonialism”. The evening was capped off with the auction of books, casts, art, and related items to fund the 2022 Morgan Outstanding Student Award.

Thank you, Harley for hosting FPS, Roger for his support, to those who donated items for the auction, and everyone for the fellowship.



Margo and George Williams with Mike Reagin scouring slump blocks for fossils.

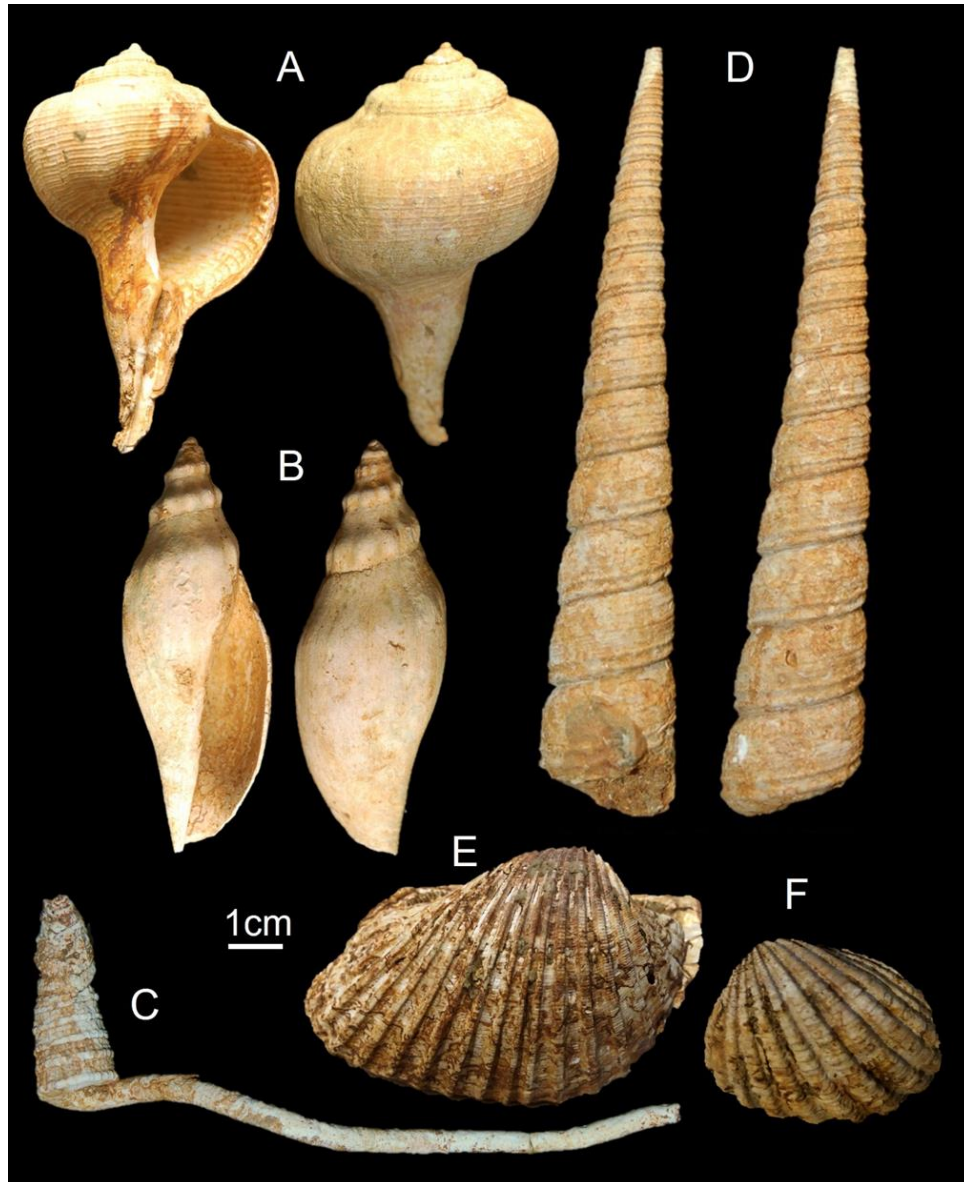


View of the Lake Talquin Dam at Jackson Bluff.





(Left to right) Mike Reagin, George Williams, and Laura Pullum enjoying the hunt.



Fossil mollusks from the Upper Pliocene Jackson Bluff Formation, Leon County, Florida. A. *Buscyon tudiculatum* (Dall, 1890); B. *Volutifusus mutabilis* (Conrad, 1829); C. *Petalococonchus sculpturatus alaminatus* Gould, 1994; D. *Cavitturritella alumensis* (Mansfield, 1930); E. *Anadara campsa* (Dall, 1898); F. *Carditamera vaughni* Dall, 1903.



## FLORIDA PALEONTOLOGICAL SOCIETY

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Address: Secretary, Florida Paleontological Society, Inc.

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

University of Florida, Gainesville, FL 32611-7800



Ed Derouin walking the wall of Jackson Bluff marine shells.



Laura bagging some of her finds.





Some of the happy attendees of  
the Spring 2022 Field Trip.





## Spring Meeting 2023— by Jack Boyce

### **Overview**

The FPS Spring 2023 meeting was held from March 31st - April 2nd. It convened in Punta Gorda, Florida on the evening of March 31st with discussions over dinner at a local eatery on Kings Highway. On the morning of the 1st, following a short drive from the Knights Inn parking lot through Charlotte County, attendees gathered to collect fossils from a Plio-Pleistocene quarry and shell pit in Charlotte County. Although early, middle, and late Pleistocene deposits were exposed in the quarry, most of the shells were from the Lower Pleistocene Caloosahatchee Formation. The Ochopee Member of the Tamiami Formation is present in the quarry as well, so upper Pliocene finds were possible. The weather was almost perfect for hunting fossils on land in Florida. Temperatures averaged 84°F with high humidity, and mixed clouds with an occasional breeze.



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.

**Formations**

**Shelly sediments of Plio-Pleistocene age (Pliocene/Pleistocene) at surface, covers 93 % of this area.**

Tertiary-Quaternary Fossiliferous Sediments of Southern Florida - Mollusk bearing sediments of southern Florida contain some of the most abundant and diverse fossil faunas in the world. The origin of these accumulations of fossil mollusks is imprecisely known (Allmon, 1992). The shell beds have attracted much attention due to the abundance and preservation of the fossils but the biostratigraphy and lithostratigraphy of the units has not been well defined (Scott, 1992). Scott and Wingard (1995) discussed the problems associated with biostratigraphy and lithostratigraphy of the Plio-Pleistocene in southern Florida.

These "formations" are biostratigraphic units. The "formations" previously recognized within the latest Tertiary-Quaternary section of southern Florida include the latest Pliocene - Early Pleistocene Caloosahatchee Formation, the Early Pleistocene Bermont formation (informal) and the Late Pleistocene Fort Thompson Formation. This section consists of fossiliferous sands and carbonates. **The identification of these units is problematic unless the index molluscan species are recognized.** Often exposures are not extensive enough to facilitate the collection of representative faunal samples to properly discern the biostratigraphic identification of the formation. In an attempt to alleviate the inherent problems in the biostratigraphic recognition of lithostratigraphic units, Scott (1992) suggested grouping the latest Pliocene through Late Pleistocene Caloosahatchee, Bermont and Fort Thompson Formations in to a single lithostratigraphic entity, the Okeechobee formation (informal). In mapping the shelly sands and carbonates, a generalized grouping as Tertiary-Quaternary shell units (TQsu) was utilized. This is equivalent to the informal Okeechobee formation. The distribution of the Caloosahatchee and Fort Thompson Formations are shown on previous geologic maps by Cooke (1945), Vernon and Puri (1964) and Brooks (1982). The Nashua Formation occurs within the Pliocene - Pleistocene in northern Florida. However, it crops out or is near the surface is an area too small to be shown on a map of this scale. Lithologically these sediments are complex, varying from unconsolidated, variably calcareous and fossiliferous quartz sands to well indurated, sandy, fossiliferous limestones (both marine and freshwater). Clayey sands and sandy clays are present. These sediments form part of the surficial aquifer system.

**Tamiami Formation (Plio-Pleistocene) at surface, covers 1 % of this area.**

The Tamiami Formation (Mansfield, 1939) is a poorly defined lithostratigraphic unit containing a wide range of mixed carbonate-siliciclastic lithologies and associated faunas (Missimer, 1992). It occurs at or near the land surface in Charlotte, Lee, Hendry, Collier, and Monroe Counties in the southern peninsula. Several named and unnamed members are recognized within the Tamiami Formation. These include: the Buckingham Limestone Member; an unnamed tan clay and sand; an oyster (*Hyotissa*) facies, a sand facies, **the Ochopee Limestone Member**, the Bonita Springs Marl Member; an unnamed limestone facies; the Golden Gate Reef Member; and the Pinecrest Sand Member (Missimer, 1992). The individual members of the Tamiami Formation were not separately mapped on the geological map. Lithologies of the Tamiami Formation in the mapped area include: 1) light gray to tan, unconsolidated, fine to coarse grained, fossiliferous sand; 2) light gray to green, poorly consolidated, fossiliferous sandy clay to clayey sand; 3) light gray, poorly consolidated, very fine to medium grained, calcareous, fossiliferous sand; 4) white to light gray, poorly consolidated, sandy, fossiliferous limestone; and 5) white to light gray, moderately to well indurated, sandy, fossiliferous limestone. Phosphate is present in virtually all lithologies as limited quantities of sand- to gravel-sized grains. **Fossils present in the Tamiami occur as molds, casts, and body fossils. The fossils present include barnacles, mollusks, corals, echinoids, foraminifers and calcareous nannoplankton.** The Tamiami Formation has highly permeable to impermeable lithologies that form a complex aquifer. Locally, it is part of the surficial aquifer system. In other areas, it forms a part of the intermediate confining unit/aquifer system.

**Additional Formations:**

Holocene sediments (Holocene) at surface, covers 5 % of this area

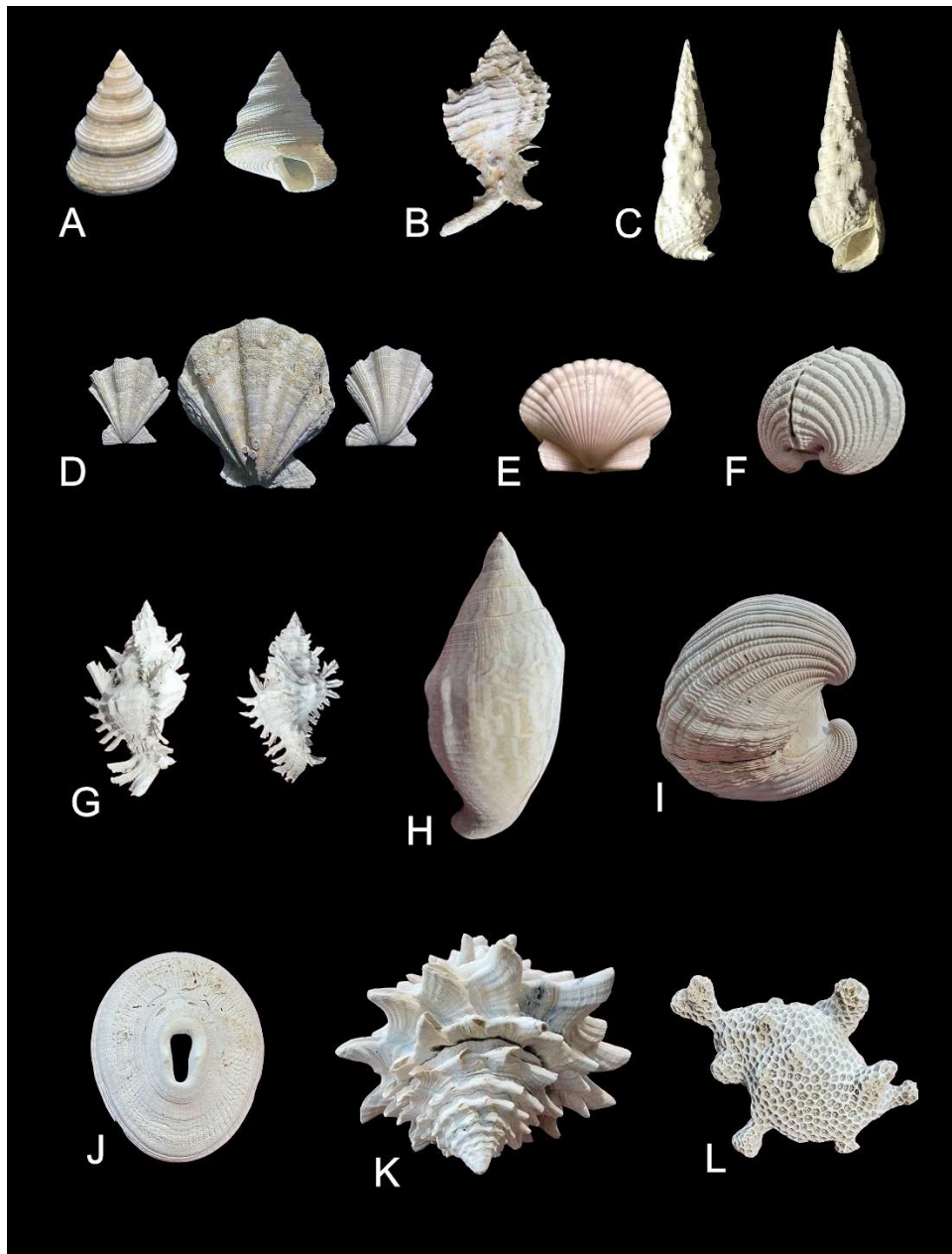
Undifferentiated sediments (Pleistocene/Holocene) at surface

Hawthorn Group, Peace River Formation (Miocene/Pliocene) at surface

<https://mrdata.usgs.gov/geology/state/fips-unit.php?code=f12015>

As it turned out, most of the attendees on the FPS trip were not there to marvel at the clays. They were more interested in the fossils of the Early Pleistocene Caloosahatchee Formation. Molluscan fossils are the most abundant encountered in the quarry, particularly in the limestones of the lower part of the section, but they are also locally abundant in some of the clayey sands. However, before you get to hunt, there are some rules and regulations (see image on Page 13). In the quarry close to the cars with empty buckets, all are listening to Roger Portell discuss the geology and age of the site, the types and diversity of fossils we are likely to find, and a final reminder that we are guests on private property. We individually need follow the rules: wear protective equipment like hardhats and bright vests; stay far away from operating earth moving equipment and do not interfere with the employees currently working. Hunting in a quarry is a great gift. Let's all make sure the owner realizes that FPS members appreciate it.





Fossils collected from the shell pit, Charlotte County, Florida. A. *Calliostoma willcoxianum* Dall, W.H. 1892; B. *Phyllonotus pomum* (Gmelin, J.F. 1791); C. *Cerithioclava caloosaense* (Dall, W.H. 1892); D. *Stralopecten caloosaensis* (Dall, W.H. 1898); E. *Argopecten comparilis* (Tuomey, M. & Holmes, F.S. 1855); F. *Anadara crassicosta* (Heilprin, A. 1886); G. *Chicoreus floridanus* Vokes, E.H. 1965; H. *Lobatus leidyi* (Heilprin, A. 1886); I. *Noetia ponderosa* (Say, T. 1822); J. *Diodora caloosaensis* (Dall, W.H. 1892); K. *Hystrivasum horridum* (Heilprin, A. 1886); L. *Septastrea marylandica* (Conrad, T.A. 1841).



Mike Reagin examining an outcrop of Caloosahatchee shells.



John and Cheryl Jacobs collecting roadside.





Roger discussing the local geology, paleontology, and (as always) giving his safety talk.

**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, artwork, and photographs related to paleontology and like 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.



*Lobatus mayacensis* (Tucker & Wilson, 1933) found by Ron Bopp. It measures 235 mm (60 to 70 mm larger than reported species on the internet) and weighs 12.9 oz (including some rock-hard matrix in the opening). The largest one in the UF Collection Database is 165 mm in length. It is currently in the process of being cleaned. It will enjoy a brief time in Ron's collection, eventually being donated to the University of Florida Invertebrate Paleontology Division.





Roger Portell introducing FPS Secretary Lyndsey Farrar's talk.

After both an enjoyable and successful morning of fossil hunting, FPS members participating in the field trip retired to the Knights Inn to sort a few of the best finds, take a shower, and relax prior to reconvening for a banquet and silent auction at Lashley's Crab House in Punta Gorda that overlooks the Peace River. The menu choices included New York Strip, Fried Shrimp, Grilled Mahi, or Chicken Alfredo. After a scrumptious repast, FLMNH Collection Manager Lyndsey Farrar delivered an excellent presentation on the "Eight Morphotypes of Biotic Traces Found on Fossil and Recent Echinoids".

The presentation was followed by a silent auction to benefit the Gary S. Morgan Award for Student Research. Money raised will provide future scholarships to worthy Paleontology graduate students (state-wide) to conduct research (1-2 awards each year based on auction proceeds). The auction during the Spring 2023 meeting raised over \$600. Many of the vertebrate fossil casts (made by Sue and Steve Hutchens) and the paleontology books were contributed by the estate of the late FPS Secretary Marcia Wright. Boxes and display cases were provided by FLMNH Invertebrate Paleontology. Thanks to all who donated items to the auction and to all who outbid their friends to win these special items. All members are encouraged to enthusiastically support future auctions.



*Titanis walleri* bird foot cast went to the highest bidder, Phil Whisler (FPS Treasurer).

## 2021 Converse Awardee

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.



Harry G. Lee (left) being presented the 2021 Howard Converse Award by Roger Portell.

Harry Lee 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. Several years ago, Harry started traveling from Jacksonville (76 miles distance each way) once or twice a week to volunteer in Invertebrate Paleontology. Thus far, he has volunteered more than 3,000 hours, much of that time hunched over a microscope picking through fine shell hash of thousands of shells and sorting 4,000 whole shells of 350 species. Dr. Lee has imaged many hundreds of these tiny fossils using scanning electron microscopy at the University of Florida, Geosciences Department and identified the resulting catch. Fossil micro-mollusks are not common in collections because of the time and effort it takes to sort and identify them. An identified collection of this size and type is a boon to any Natural History museum. Many of the species Harry identified are new to the Pinecrest beds of the Tamiami Formation or new to science further enhancing the importance of this collection. Dr. Lee has published 73 peer-reviewed articles and a book, reviewed manuscripts for 12 molluscan journals, formally described 36 taxa, and has 18 species named in his honor. 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.



## 2022 Converse Awardee



Ken Marks (left) being presented the 2022 Howard Converse Award by Roger Portell.

Ken Marks and his wife, Tammy, have been volunteering with the Florida Museum of Natural History every year since 2014 when they began driving hours from their home in south Florida to help at the Thomas Farm Fossil site. They transitioned to helping at the Montbrook fossil site in 2015.

Ken and Tammy ended up moving to Gainesville, solely because they wanted to spend more time volunteering at the museum. Ken began rigorously searching through matrix from Montbrook and continued to find new occurrences. He has found at least 4 chondrichthyan taxa that were not previously reported from Florida: cookiecutter shark (*Isistius*), angel shark (*Squatina*), horn shark (*Heterodontus*), and devil ray (*Mobula*).

When the Fantastic Fossil exhibit opened in April of 2022, Ken began working almost every day and Tammy would join on the weekends. Ken created hands-on and visual learning devices to discuss fossil preparation and how paleontologists excavate fossils from the Montbrook site. He would have crowds of captivated museum visitors hanging on to his every word in the exhibit space.

Ken has also received the 2023 James Pope Cheney Volunteer of the Year Award for the Florida Museum of Natural History. Many of us have never encountered a volunteer like Ken who has been dedicating his time and personal finances to contribute to the research and outreach endeavors of the museum.

## 2021 Morgan Award Winner – Lazaro Willian Vinola Lopez

(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).

### **Morphological and ecological changes in Florida crocodylians in during the Cenozoic**

By Lazaro Willian Vinola Lopez

*Alligator* is a charismatic genus of crocodylian with two extant species restricted to North America (*Alligator mississippiensis*) and east Asia (*A. sinensis*). The origin of this genus can be traced back to the Late Eocene-Early Oligocene of midwest North America (NA), with subsequent eastward displacement in the Oligocene and displacement into Asia in the early Middle Miocene. Hitherto, six recognized species are known from the fossil record of NA, but their evolutionary relationship remains a topic of strong debate because recent studies suggest that modern *Alligator mississippiensis* lineage can be traced back as far as seven million years ago. As such, fossil *Alligator* diversity over the last seven million years of NA is often limited to one species at the time. But this interpretation has been challenged by the discover of the fossils and the revision of specimens already available in collections, showing that the evolutionary history of *Alligator* is more complex and tied with the presence of other crocodylians in the region.

The goal of this project is to understand major changes in morphology and ecology of crocodylians in Florida during the last 20 million years, particularly in *Alligator*. We are interested in understanding how *Alligator* populations responded to climatic events, and the extinction and colonization of other crocodylians to Florida.

This study will allow us to understand major trends in ecology and morphology of crocodylians, in particularly Alligators, in response to climatic events and the presence of other species. As part of this major study, we are also describing three new species of *Alligator*, and reviewing the fossil record of the group in Florida. The digital 3D models of the specimens used in this study will be available to researchers, amateur paleontologists interested in identifying the fossils they collect, educators, and others with interest in the group.

**Lazaro is a graduate student at the University of Florida in the Departments of Natural History and Biology. He plans to graduate in Spring 2024, with his PhD.**





Roger Portell awarding Lazaro Willian Vinola Lopez the 2021 Gary Morgan Award.

## 2021 Morgan Award Winner – Mitchell Riegler

### **Unveiling patterns in lizard extinction from the Caribbean as related to Pre-European human immigration and European colonialism**

By Mitchell Riegler

Hispaniola is the second largest island in the Caribbean and is politically divided between Haiti and the Dominican Republic. The Dominican Republic represents most of the island, and is highly diverse both topographically (i.e., tallest mountains in the Caribbean) and environmentally (e.g., rainforests, dry forests, savannah). Additionally, the Dominican is home to more than 400 species of vertebrates, over 40% of which are endemic to Hispaniola. Unfortunately, the ecological and biological diversity of the Dominican has been negatively affected by human activity, represented by a 70% reduction in forest lands and over 15% of animals being listed as endangered. However, truly understanding the threat humanity has posed to life in the Dominican Republic requires research that studies both living (extant) species **and** extinct species. European colonization of the island began in the 1490's, while pre-European peoples immigrated to the island over 8,000 years ago. We cannot understand the impact these arrivals had on the Dominican without studying the fossil record. Thankfully, Hispaniola has hundreds of caves and sinkholes which contain a high density of Holocene (12,000 years ago to present) fossils from animals that were eaten by cave dwelling animals or who were trapped. These fossils can be collected and studied to elucidate past diversity from the Dominican before, during, and after human establishment.

The Florida Museum of Natural History (FLMNH) likely has the largest collection of these fossils because of a series of expeditions that were led by the former curator of Mammalogy, Charles Woods, between 1978 and 1984.

For a century, studies on mammalian fossils from caves of Hispaniola and the Caribbean have demonstrated the affect humans have on island species, and suggest that nearly all endemic terrestrial mammals of Hispaniola have gone extinct since European colonization. However, while past mammalian assemblages and extinctions have been studied in previous paleontological research, herpetofaunal (amphibians and reptiles) assemblages and extinctions are comparatively poorly understood even though this includes the highest diversity of vertebrates on Hispaniola (147 endemic reptiles, 62 endemic frogs). Squamates (snakes and lizards) are an especially interesting herpetofaunal system for studying the impact of human activity on the environment because of their high diversity (255 modern species) and frequent occurrence within these Holocene fossil localities. The Hispaniolan specimens currently housed at the Florida Museum of Natural History (FLMNH) have produced hundreds of extinct and extant fossil lizard specimens. Preliminary work focused on fossils of the lizard genus *Celestus* have identified three new species, each of which represent a new record of extinction.

**Mitchell is a graduate student at the University of Florida in the Departments of Natural History and Geology. He plans to graduate in Summer 2023, with his PhD.**



## 2022 Morgan Award Winner – Luis Torres Jr.

### **Comparative anatomy of mollusk shells and echinoid tests**

By Luis Torres Jr.

This project seeks to expand the understanding of the fossilization processes, preservational biases and resolution of the fossil record through comparative analyses of live/dead assemblages of marine mollusks and echinoids along the Gulf Coast of Florida. Specimens required for this research will be obtained through the sampling of modern seafloors via scuba diving expeditions. The pilot study for this project suggests that obtaining adequate quantitative data through this method will be feasible.

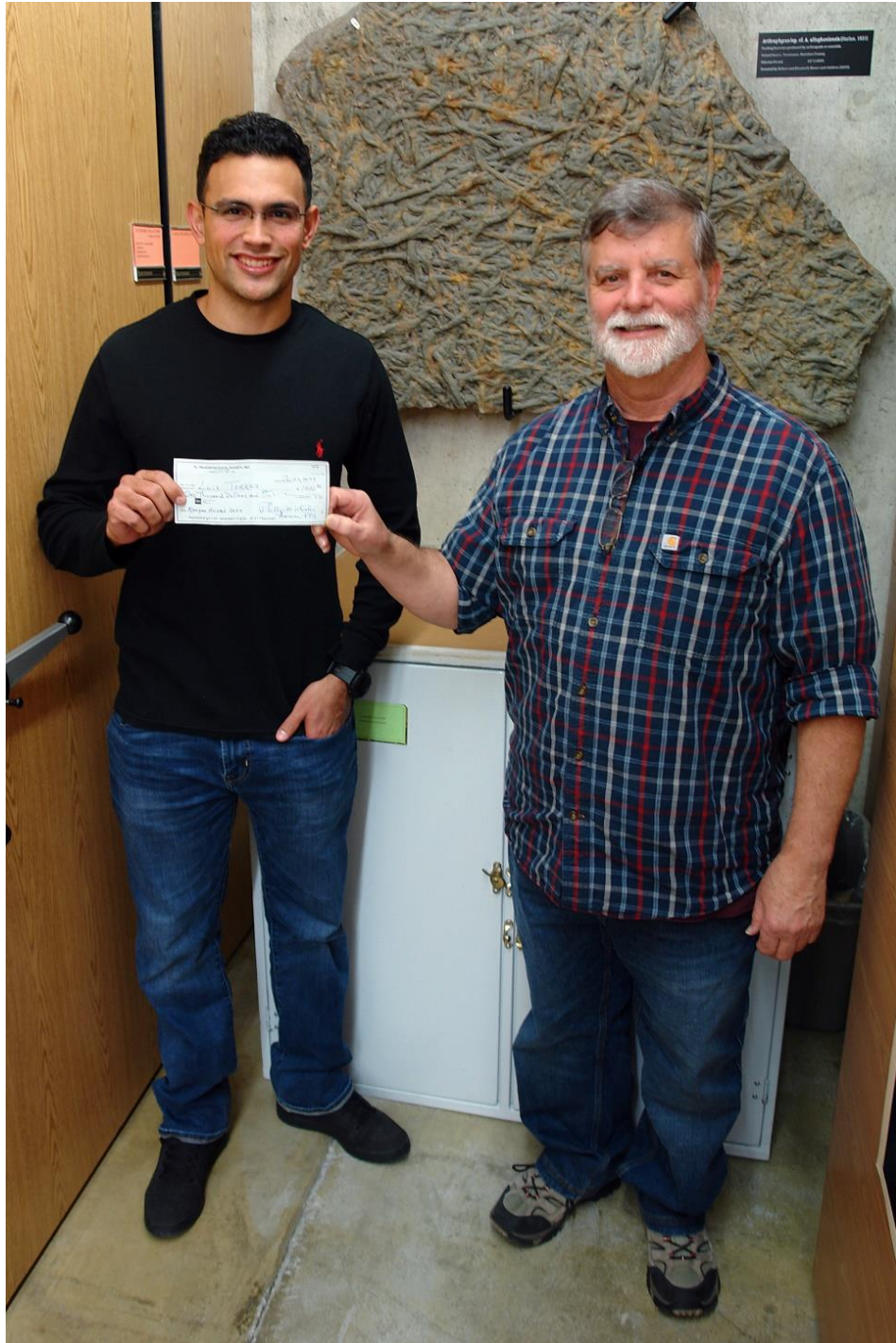
The goal of this project is to further elucidate the quality of the marine fossil record through comparative analyses between live/dead assemblages of mollusks and echinoids. The echinoid-mollusk comparison should help assess relative preservational biases that may reflect intrinsic differences in skeletal morphologies of those two groups of biomineralizing invertebrates. We will measure quantitatively whether these differences affect the quality of the fossil record of those two groups, including resolution (time averaging) and completeness (differential loss during fossilization processes). With this goal/question in mind, we have three main hypotheses: (1) Due to their multi-elemental skeleton being held together by soft tissue, the complete tests of echinoids are preserved much less frequently than the shells of mollusks. (2) However, fragments of echinoid tests (plates and plate fragments) should preserve at least as well as mollusk shells.

(3) Complete echinoid tests are unlikely to undergo significant time averaging comparable to that observed for mollusks.

Conservation paleobiologists, with their work focused on determining conservation goals through the fossil record, will benefit from the information obtained from this project by gaining better understanding of the resolution and completeness of the fossil record represented by echinoid tests, echinoid fragments, mollusk shells, and mollusk fragments. For example, mollusk populations may be overrepresented in the fossil record while those of echinoids may be underrepresented due to preservational biases reflecting their multi-elemental skeletal morphology.

The outcomes of this project may also be relevant to sedimentologists and stratigraphers. If my hypothesis is correct, numerous complete tests of echinoids could be used as an indicators of rapid burial, high sedimentation rates, and limited time-averaging.

**Luis is a graduate student at the University of Florida in the Departments of Natural History and Geology. He plans to graduate in Spring 2027, with his PhD.**



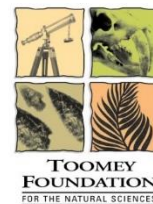
Roger Portell awarding Luis Torres Jr. the 2022 Gary Morgan Award.



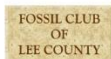
**Junior Paleontologist Kit Sponsored by:**



Florida Fossil Hunters



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**Delaware Museum of Natural History**



We are looking for volunteers to continue to put together the Junior Paleontologist fossil kits. Please email [prothpaleo@gmail.com](mailto:prothpaleo@gmail.com) if you are interested.

**FPS Product Sales**

Prices are for current FPS members only  
Shipping and Handling Extra

**Books**

Hulbert, Fossil Vertebrates of Florida \$31.00  
Stricke, Daring to Dig, \$20.00

**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  
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Part 8, Brachiopods \$7.00  
Part 9, Mollusca (Shoal River Formation) \$12.00  
Part 10, Mollusca (Anastasia Formation) \$10.00  
Part 12, Mollusca (Fort Thompson Formation) (On Website ONLY)  
Part 13, Mollusca (Bermont Formation) (On Website ONLY)  
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 (S - L) Bright Yellow (Field) \$12.00**

**Coffee Mug \$4.00 (Only four left!)**

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](mailto: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 for 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](http://www.flmnh.ufl.edu/vertpaleo/amateur-collector/fossil-permit)

***REMINDER: If you have not submitted your 2023 FPS dues...Now is the Time!!!***





## DESIGN CHALLENGE



We are asking for members to submit a new FPS design for t-shirts and other merchandise. We are looking for a monochromatic, paleontology/Florida related design. Please send any designs that you would like to submit to [lyndseyfarrar@ufl.edu](mailto:lyndseyfarrar@ufl.edu) by **May 31<sup>st</sup>, 2023**. The creator of the chosen design will receive a free t-shirt!

## MARK YOUR CALENDAR!

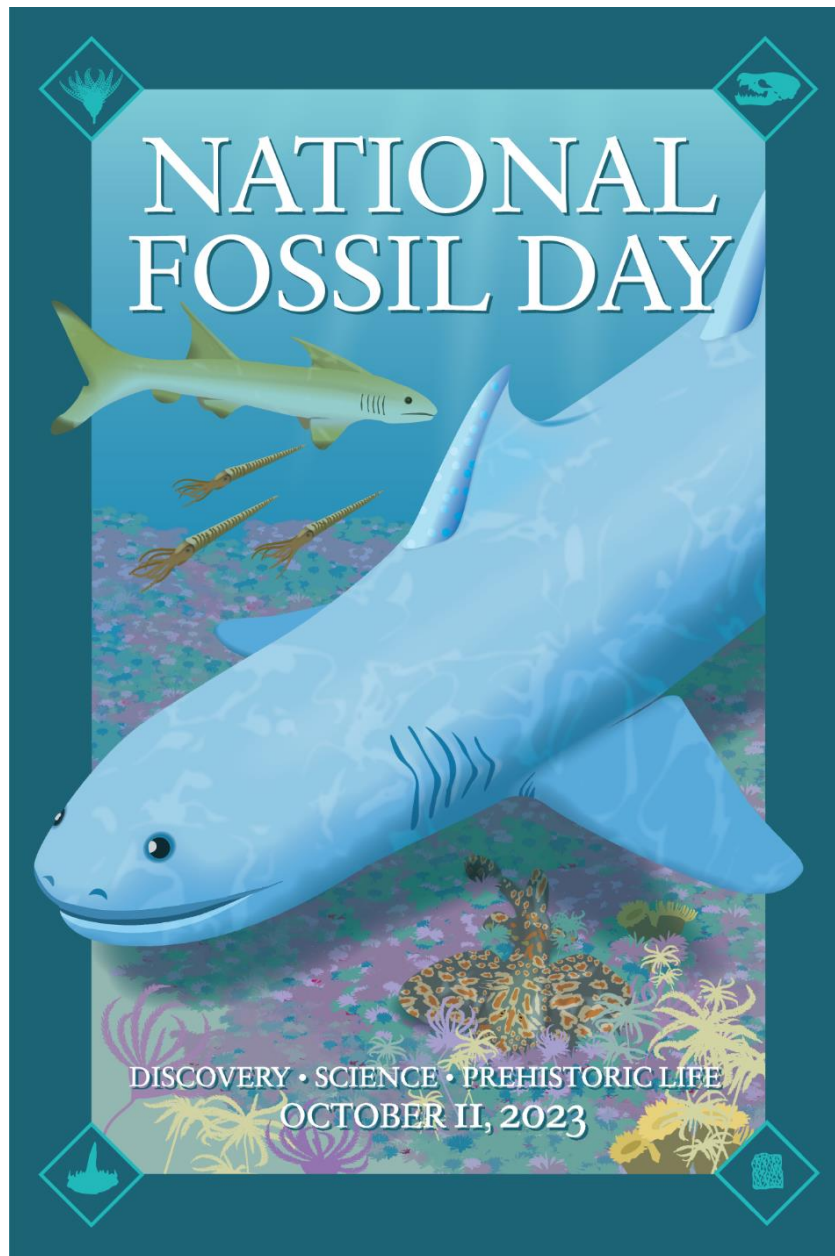


Ron Bopp with his prize!

The Fall Field Trip is scheduled for November 4th, at a northern Florida locality (TBD)—  
Mark your calendars and check your in- box for additional info in the early fall. **Ensure your dues are paid—field trips are available only to paid members.** We hope you can attend!  
Field trip spaces are typically limited.



**MARK YOUR CALENDAR!**



National Fossil Day will be celebrated on October 11th. We hope to hold the event at the Bishop Museum in Bradenton. Stay tuned for more information!