



volunteer

join

inspire

visit

research

teach

discover

collect

learn

preserve

collaborate

donate

explore

participate

**Florida Museum
of Natural History**
Annual Report
2010-2011

The Florida Museum of Natural History **INSPIRES PEOPLE TO VALUE the BIOLOGICAL RICHNESS**
and **CULTURAL HERITAGE** of our **DIVERSE WORLD** and make a **POSITIVE DIFFERENCE** in its **FUTURE**.

2010-2011 IMPACT by the numbers:

3,307
FACEBOOK
fans.

509,001
WEBSITE
database queries.

1,310
TWITTER
followers.

380
COLLECTION LOANS
to other institutions.

33

COUNTRIES VISITED
by Museum researchers.

17,587

DISCOVERY ROOM
visitors.

8,165
PUBLIC PROGRAMS
attendees.

486

students participated
in **SUMMER CAMPS**.

1,768

news articles
PUBLISHED.

133

PEER-REVIEWED
scientific publications.

115

**GRADUATE
COMMITTEES SERVED,**
including 84 chaired
by Museum faculty.

34,110

hours donated by
659 VOLUNTEERS.

47

UF COURSES TAUGHT
by Museum faculty.

\$10

MILLION
NSF award received
to digitize the nation's
biological collections.

133

PEER-REVIEWED
scientific publications.

115

**GRADUATE
COMMITTEES SERVED,**
including 84 chaired
by Museum faculty.

15.23 **MILLION**
web page views

34

MILLION
total specimens.

22,365

SPECIMENS loaned
to other institutions.

39

new grants
and contracts worth
more than **\$4.58 MILLION**
received by Museum
scientists.

Florida Museum of Natural History

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About the design concept

Challenged to visually communicate the Museum's focus on impact this past year, I was inspired to explore visual metaphor. I thought of highly evolved systems in nature that ensure the survival of plant species by dispersing multitudes of tiny seeds, which are opportunities for potential life and growth. Some seeds are designed to travel far and wide, to establish as many new plants as possible. The dandelion, *Taraxacum officinale*, on the front cover, seemed the perfect visual metaphor to communicate what I feel represents the Florida Museum of Natural History's far-reaching and never-ending impact. My hope is that as you read this report, you'll see what I mean, and be inspired to care about life on Earth.

Elecia Crumpton
Graphic Design Coordinator



A message from the **DIRECTOR**



The Florida Museum's McGuire Center for Lepidoptera and Biodiversity roof was selected as a campus demonstration site for an innovative solar array. Installation of the 75kW system was completed in May 2010, and it now contributes power to the Museum's electrical and cooling systems.

This past year the Museum invested a great deal of energy into analyzing our intended impact on the various audiences we serve. While our mission – understanding, preserving and interpreting biological diversity and cultural heritage to ensure their survival for future generations – describes **what** the Museum does, our intended impact describes **the result** of the Museum's work, or what we hope to achieve as we carry out our mission.

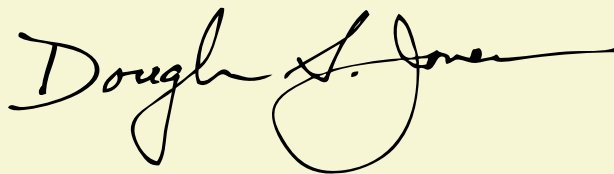
Understanding the ultimate effect of our efforts is especially important in the current landscape of limited resources and heightened accountability. It helps to guide decision-making, prioritization of actions and the alignment of precious resources. Assisting us in the impact-planning process was Randi Korn and Associates, Inc. of Virginia, who helped us articulate the Museum's impact statement: *People are inspired to value the biological richness and cultural heritage of our diverse world and make a positive difference in its future.*

It follows that the organizing theme of this Annual Report is **impact**. The ensuing pages highlight some of the many ways the Museum inspires people to care about life on Earth and value our cultural heritage. Perhaps nowhere was this more clearly seen than in the temporary exhibition, *The Blue Path: Protecting Florida's Springs*, which described the uncertain future of our state's precious water resources. We also opened our long-awaited Lastinger Family Foundation Gallery featuring *Collections are the Library of Life*, an interactive exhibit emphasizing the positive impact scientific biocollections have on some of the major challenges facing society today. At the same time we also opened an award-winning exhibition, *Dugout Canoes – Paddling through the Americas*, inspired by the discovery of 101 dugout canoes at nearby Newnans Lake.

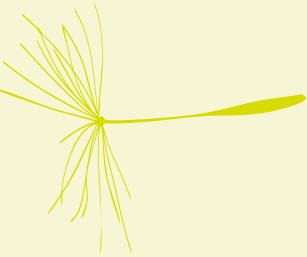
The Museum posted its most successful year ever in terms of competitive grants and contracts. Particularly noteworthy are two large NSF grants: 1) Bruce MacFadden and a team of paleontologists received \$3.8 million in the highly competitive Partnerships for International Research and Education program to work on ancient biodiversity in the Panama Canal region. This will impact the lives of many students and young professionals as a new generation of globally competent scientists is trained. 2) The other grant is the largest in the Museum's history – \$10 million – awarded to Larry Page and colleagues from the Museum, the UF College of Engineering and Florida State University to establish a national center for digitization of biocollections.

In August we reluctantly celebrated the retirement of Distinguished Research Curator and James E. Lockwood, Jr. Professor of Archaeology, Dr. Kathleen Deagan. Few would question the enormous and lasting impact Kathy has had on the Museum, her students and the field of historical archaeology. Fortunately she continues to work in St. Augustine and remains involved as curator emerita, extending the impact of her brilliant career.

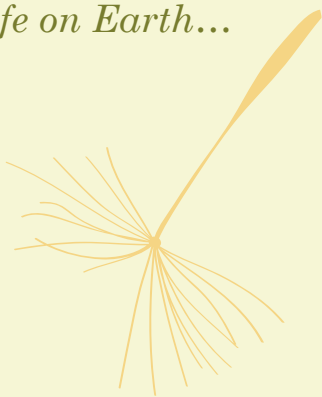
I hope you enjoy this report, and after reading it will agree with me that the Florida Museum of Natural History's impact is both significant and lasting.



Douglas S. Jones, Ph.D.
Director, Florida Museum of Natural History



*Inspiring people
to care about
life on Earth...*





Rosie Kereston, left, participates in *ButterflyFest* as a pollinator.

MUSEUM ‘perfect fit’ FOR OUTSTANDING JUNIOR VOLUNTEER

Since sixth grade, 17-year-old Rosie Kereston has committed her summers to serving the Museum as a Junior Volunteer. “I had always loved visiting the Museum as a child,” she says, “so I felt dedicating my time to working there would be very worthwhile and fun.”

Rosie also knew she would later need volunteer experience for college scholarships, but wanted to volunteer someplace she loved. She said the Museum was the perfect fit.

“Interacting with people of all ages and sharing what I’ve learned are two of my favorite things,” she said. “Going back to the Museum is something I look forward to at the start of every summer.”

Education assistant Jennifer Hunzinger, who coordinated the junior volunteer program last summer, said Rosie embodies many of the qualities the Museum looks for in junior volunteers.

“Rosie is enthusiastic about learning new skills and excited to share her knowledge with visitors,” Hunzinger said. “She also approaches her assignments with a mature sense of service, is highly regarded by her supervisors and other junior volunteers, and has a wonderful reputation for dependability.”

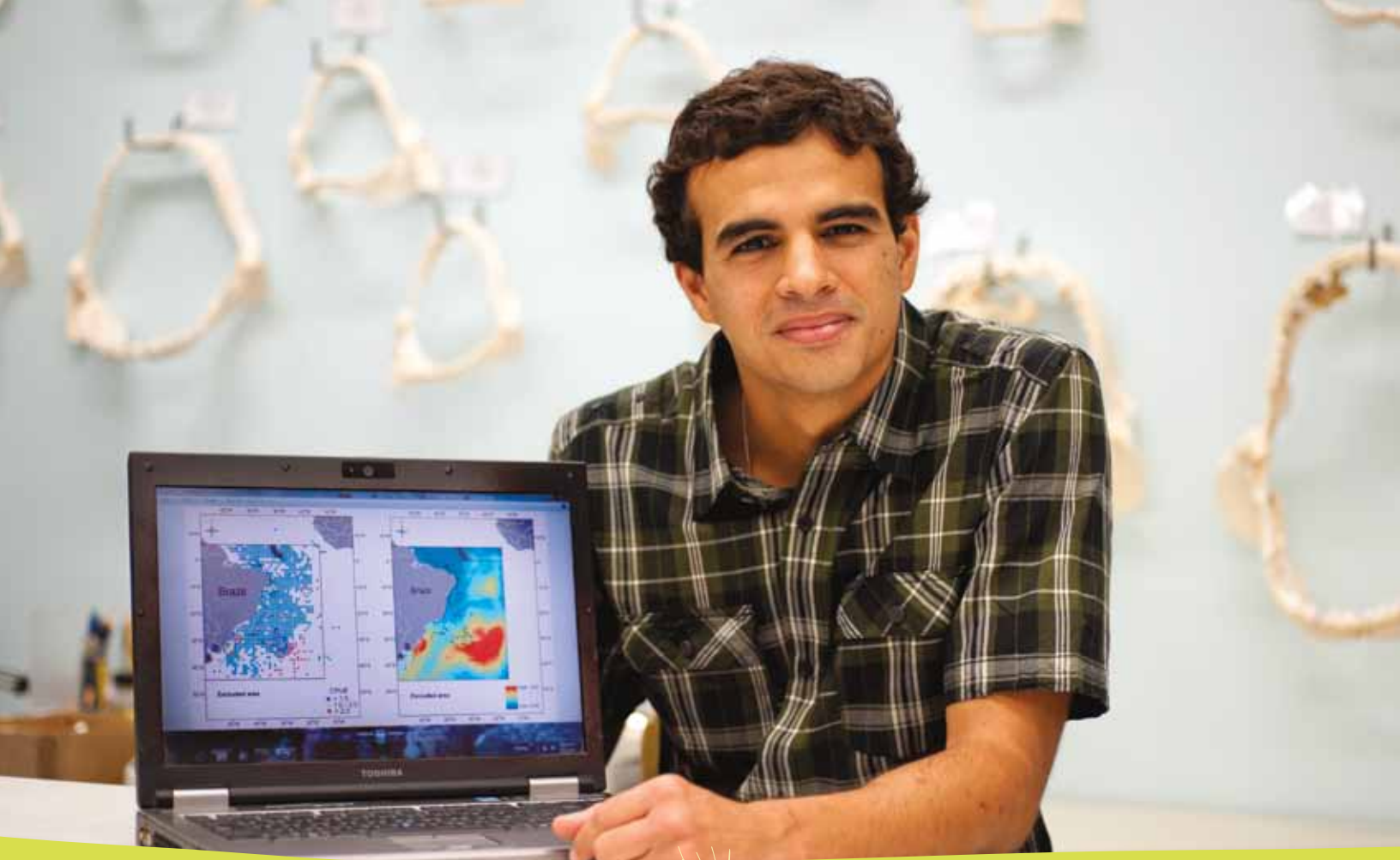
Rosie has served in a variety of positions as a volunteer, from working with children in the Discovery Room to engaging visitors at the discovery cart. Throughout all of these experiences she has taken on every task with intelligence and enthusiasm.

Rosie’s favorite job at the Museum is working as a Butterfly Rainforest interpreter. She loves not only talking with visitors, but also learning about the different butterfly species in the exhibit. Last summer, Rosie was excited for the opportunity to volunteer in the McGuire Center scientific collections because it provided her with hands-on experience working with Lepidoptera specimens.

Recently, Rosie’s passion and hard work have enabled her to earn a volunteer position in the McGuire Center laboratory where she will assist a team of scientists analyzing Lepidoptera genetics. Now in her junior year, Rosie plans to attend college and hasn’t yet decided on a major. But she said her volunteer work at the Museum has sparked her interest in biology and chemistry. “Without question, volunteering at the Museum has already impacted my earliest career decisions,” she said.

Just as Rosie has benefited from her Museum service, the Museum, in turn, is more successful because of the work of talented and dedicated volunteers like Rosie.





COLLECTIONS *and* RESEARCH

The Florida Museum of Natural History houses more than 34 million scientific specimens. The collections include field notes, photographs, databases, and libraries that complement the irreplaceable scientific value of the specimens themselves. Most of the Museum's ever-growing collections of plants, animals, fossils and artifacts rank among the top 10 nationally and internationally.

The Museum's Collections and Research Division had an outstanding year during 2010-2011. While its main focus is Florida, the southeastern United States and the Caribbean, the Florida Museum's many research projects span the globe—including work in 33 countries last year. Museum researchers brought in more than \$4.58 million in new grants and contracts to support field and laboratory research, collections and education ranging from pre-K to the postdoctoral level.

Among many others, exciting new projects include research on the evolution and ecology of plants and animals on tropical islands, the evolution and early diversification of mammals after the extinction of dinosaurs, and the production, trade and social implications of prehistoric American Indian pottery. These projects support and educate students from the University of Florida and around the world, as part of our commitment to train the next generation of scientists.

Ichthyology graduate assistant Felipe Carvalho, who is researching Blue Sharks, displays maps indicating the species' population distribution.



Marine Malacology curator Gustav Paulay photographed this Puget Sound king crab, *Lopholithodes mandtii*, during a recent research expedition.

The Museum also received the largest grant in its more-than-100-year history: \$10 million over five years from the National Science Foundation to improve access to the nation's biological collections. The Museum is leading the *Advancing Digitization of Biological Collections* initiative with the UF College of Engineering and Florida State University. The award establishes *iDigBio*, a national center for digitization at the Museum and UF.

ANTHROPOLOGY AND ARCHAEOLOGY

Caribbean Archaeology

Bill Keegan studied archaeological sites on Middle Caicos, Turks & Caicos Islands. He also worked with the Antiquities, Museums, and Monuments Corporation on several proposed projects in The Bahamas and advised The Island School (Eleuthera, Bahamas) concerning its archaeological research program. Keegan's articles with Betsy Carlson in the popular magazine *Times of the Islands* informed a broad audience of island residents and visitors about topics from the first Amerindian colonization of the Turks & Caicos to bead-making and the mythical importance of sea turtles.

Ceramic Technology Lab

Neill Wallis was hired in August 2010 as Assistant Curator of Florida Archaeology. He and Collection Manager Ann Cordell began upgrading equipment and improving the analytical and storage capabilities of the lab, which is currently involved in multiple projects with prehistoric pottery from the Southeast.

Environmental Archaeology

Kitty Emery and her students investigated overhunting vs. sustainable hunting practices in the Maya region, comparing the prey remains left by both prehistoric and modern hunters. With recent UF Ph.D. recipient Erin Thornton, Emery also studied the prehistoric domestication of turkeys using evidence from osteology, osteometry and ancient DNA, discovering that the Maya kept captive turkeys nearly 1,000 years earlier than previously recognized.

Florida Archaeology

Bill Marquardt supervised the laboratory and field work at the Pineland Site Complex by graduate students Melissa Ayvaz, Andrea Palmiotto and Michael Wylde. With Karen Walker, Marquardt prepared the final synthetic chapter on environmental and cultural change for an upcoming book about the Pineland Site. Working with colleagues from the UF Department of Geological Sciences, University of North Florida and University of Missouri, Neill Wallis developed protocols to investigate prehistoric ceramics using mass spectrometry with laser ablation, a method of isolating clay from its additives so it may be used to better understand social interactions of early peoples. Wallis also studied collections, reassessed old excavations and field-tested sites in Florida's Big Bend region.

Latin American Archaeology

Susan Milbrath curated and studied archaeological materials, especially pottery, from the spectacular Cerros site in Belize. Southern Methodist University transferred this collection to the Museum with permission of the Belize government, and the Museum's priority was analyzing the artifact caches in relation to the Preclassic Maya architecture at Cerros. Milbrath's archaeoastronomy research was highlighted by publication of the book *Heavenly History: Ancient Mexican Astronomy in the Codex Borgia*.

Spanish Colonial Archaeology

Kathleen Deagan retired in September 2010 after an outstanding career at the Florida Museum of Natural History. Nevertheless, she and Gifford Waters worked in the field and laboratory on 16th



Archaeologist Karen Walker displays a southern quahog clam shell and other specimens from Pine Island. Using isotopic information from the items, researchers determined cooler, drier temperatures and lower sea levels affected the island's inhabitants from A.D. 500 to 800.

century Spanish Colonial sites in St. Augustine, with a focus on comparing the material culture from St. Augustine with that of other Spanish Colonial regions in the Americas. A major discovery during excavations was the coquina and oyster shell foundations of the Nombre de Dios mission, a church built in 1677 by the Spanish governor of Florida.

GENETIC RESOURCES REPOSITORY

The Museum added nearly 3,000 DNA samples of plants, birds, amphibians, reptiles, fishes, butterflies, marine invertebrates and various animal tissues to its Genetic Resources Repository, bringing the total number of specimens to about 30,000. This collection shares materials with researchers around the world and is featured in the Frontiers of Science display in the *Museum Collections are the Library of Life* exhibit at Powell Hall. The exhibit highlights the wide range of biological materials preserved for long-term storage in the liquid nitrogen freezer.

INFORMATICS

Nico Cellinese continued the development of informatics websites including TOLKIN (www.tolkin.org), RegNum (<http://wiki.flmnh.ufl.edu/regnum>), and BiSciCol (www.BiSciCol.org) with special effort on building interfaces to manage phenotype ontologies as well as semantic data integration and interoperability. Reed Beaman spent the year as a program officer at the National Science Foundation in Washington, D.C. Larry Page, with UF co-PIs Jose Fortes, Bruce MacFadden and Pam Soltis, was awarded a five-year, \$10 million NSF Advancing Digitization of Biological Collections grant for the *iDigBio* project, which will coordinate 92 institutions in 45 states working to digitize the nation's biological collections and serve as a clearinghouse for museum-based biological information across the U.S.



NEONTOLOGY

Herbarium

Cellinese investigated the systematics, evolution and biogeography of Alpine and Mediterranean forms of Campanulaceae (bellflowers), which include complex sets of endemic species. She also worked with Evgeny Mavrodiev on the biogeography and evolution of floras in the lower Volga and Caucasus regions. Norris Williams and Mark Whitten completed a major molecular phylogeny of a group of Neotropical orchids called Oncidiinae. They analyzed 598 species and seven gene regions. Williams and Whitten also collected genetic data for nine plastid genomes of orchids. Kent Perkins spearheaded the digitization of the Herbarium's type specimens for the Global Plants Initiative, the largest coordinated effort to digitize plant type specimens and scholarly resources from herbaria around the world. With support from the Andrew W. Mellon Foundation, the Herbarium has been imaging its type specimens for inclusion in the JStor Plant Science website (jstor.plants.org).

Herpetology

Max Nickerson and students surveyed and analyzed microbes on injured versus non-injured amphibians. They also studied a population of cottonmouths near the northern range of this venomous species. Kenneth Krysko's field work in South Florida continued to enlighten scientists and the public about the state's many established non-native species of amphibians and reptiles and the damage they cause. The geographic ranges of some of the most invasive species of frogs, lizards and snakes are expanding northward, with unknown long-term consequences for Florida's native flora and fauna.

Ichthyology

Larry Page's *All Cypriniformes Species Inventory*, an NSF-funded Planetary Biodiversity Inventory grant, hit full stride in year two of this four-year project, including revisions of several genera of Asian cypriniform fishes. Page also has been revising the *Handbook of Darters* and continued studying the systematics and biogeography of North American freshwater fishes. A highlight of this work was publication, with Brooks Burr, of the *Peterson Field Guide to Freshwater Fishes of North America North of Mexico*, the most comprehensive field guide to North American fishes.

Invertebrate Zoology

Gustav Paulay and his students worked on a systematic revision of aspidochirotid holothurians, or sea cucumbers. They also were an essential part of a major biodiversity and bar coding survey of marine invertebrates on Mo'orea Island, near Tahiti in the tropical Pacific. In response to the Gulf of Mexico oil spill of April 2010, Museum researchers surveyed marine invertebrates off Florida's Gulf Coast. Fred Thompson analyzed the morphology and systematics of the land snail genus *Epirobia* and related genera in Mexico and Central America, including the description of a new family, Epirobiidae. Thompson also studied undescribed species of land and freshwater snails from Hispaniola and Florida.



This lichen, *Usnea strigosa*, commonly called "beard lichen" or "old man's beard" was photographed in the UF Natural Area Teaching Laboratory behind Powell Hall.

The Katharine Ordway Chair in Ecosystem Conservation

Scott Robinson investigated the phylogenetic and trait-based community ecology of birds in tropical dry forests, tropical moisture gradients and Amazonian white sands forests with David Steadman, Andy Kratter and a number of graduate students. He also examined the behavior and ecology of urban birds in Florida, especially mockingbirds with Doug Levey and graduate and undergraduate students. Robinson also worked with graduate students to study the biotic factors, such as predation, and abiotic factors, such as temperature and rainfall, that limit the elevational ranges of birds in humid forests of the tropical Andes.

Mammalogy

David Reed's lab made great progress on several fronts, including a new program to study the effect of climate change on gene flow in Caribbean bats, which resulted from recent trips to the Bahamas, Cuba, Dominican Republic and Puerto Rico. Reed and students completed research estimating the number of times endosymbiosis has evolved in mammal lice, discovering a roughly 10-million-year cycle between the appearance of new endosymbionts. They also obtained lice worldwide for several other studies, such as trying to determine the degree of population structure in human head lice and the extent they can be used to study human migration patterns in the Americas.

Molecular Systematics and Evolutionary Genetics Laboratory

Pam Soltis, her students and colleagues, including Matt Gitzendanner, focused on angiosperm phylogeny, floral evolution and the conservation genetics of rare Florida plant species, such as *Ziziphus celata*, *Hypericum cumulicola* and *Crotalaria avonensis*. An ongoing, major NSF-funded project analyzed gene expression, gene loss and chromosomal rearrangements in *Tragopogon* polyploids, plants with multiple sets of chromosomes. Another collaborative NSF-funded project investigated the patterns and mechanisms of floral development and the identification of floral genes expressed in basal angiosperms such as *Amborella*, a plant endemic to New Caledonia considered to be the single living sister species to all other flowering plants.

Ornithology

David Steadman, Andy Kratter and Jessica Oswald incorporated data from both living and fossil birds to understand the complex history of bird communities in the tropical dry forests of northern Peru. Steadman and Oswald's studies of Ice Age birds from northwestern Mexico revealed the blackbird family, including blackbirds, cowbirds, grackles and orioles, thrived until the collapse of the large mammal faunas. Florida's Early Miocene birds continue to become better known through excavations at the exceedingly rich Thomas Farm fossil site in Gilchrist County. Discoveries during the past year include fossils from undescribed species of falcons and owls and only the second known bone from an undescribed species of today.

PALEONTOLOGY

Invertebrate Paleontology

With support from the Toomey Foundation, Roger Portell made important collections of invertebrate fossils at Guantanamo, Cuba. Doug Jones and Portell received an NSF grant to curate and database two exceptional fossil collections, one assembled by Jules DuBar during nearly a half century of fieldwork in the Carolinas, Florida and Texas, and the other consisting of 7,500 micropaleontology slides from the Florida Geological Survey. Portell and colleagues reported a new genus and species of Miocene seastar, *Kionaster petersonae*, from Calhoun County, Florida. Excavations near the Panama Canal began, with dozens of new Miocene invertebrates discovered including crabs and a small seastar. Jones and Irv Quitmyer studied shell growth increments in hard clams, *Mercenaria*, as a proxy for population dynamics and water chemistry. Their data show prehistoric Native Americans overharvested the clams, whereas modern coastal residents do not overharvest the clams, but nevertheless degrade the water quality.

Paleobotany and Palynology

Steve Manchester studied the Early Paleocene flora of the Deccan Traps, India, which feature fossil plants from just after the extinction of dinosaurs. Manchester also examined the Middle Eocene fruit and seed flora from the Messel oil shale in Germany. A highlight of his research on the fossil history of grapes and their relatives included an article on grape seeds in the *International Journal of Plant Sciences*. Manchester and graduate students Fabiany Herrera and Greg Stull investigated the fossil history of the Annonaceae (custard apples), Arecaceae (palms) and other tropical families from Central and South America and the southeastern United States. Hongshan Wang continued his research on the Cretaceous angiosperm floras of the Western interior and the Eocene angiosperm floras from the Southeast United States. Wang described a new genus and species of sycamore in the same issue of the *International Journal of Plant Sciences* in which Manchester's paper appeared.

Vertebrate Paleontology

Jon Bloch and his students collected mammalian faunas across the Paleocene-Eocene boundary in the central Bighorn Basin, Wyoming, as part of a collaborative project to document biotic changes in response to a rapid, large-scale global warming event 55 million years ago. Fossils from this time interval also are crucial for understanding the origin and early evolution of primates. Funded



Paleobotany collection manager Hongshan Wang examines plant fossils from China in the research lab. Wang co-authored a study published in *Nature* naming a new eudicot genus from China, *Leeфраctus mirus*, which lived during the early Cretaceous period about 125 million years ago.

by NSF, Bruce MacFadden, with co-PIs Bloch and Jones, began a major five-year program of collaborative research, education and outreach on Miocene fossils from Panama, especially land mammals and marine invertebrates. This highly interdisciplinary, international project takes advantage of a once-in-a-century opportunity to explore for fossils along the Panama Canal in sediments freshly exposed while the canal is being widened and deepened.

RESEARCH LOCATIONS

Florida – All counties with special attention to Alachua, Calhoun, Charlotte, Citrus, Collier, Columbia, Duval, Gilchrist, Glades, Hamilton, Highlands, Jackson, Lee, Levy, Liberty, Marion, Monroe, Nassau, Pinellas, Polk, St. Johns, Sarasota, Suwannee, Volusia and Washington.

Other States – Arizona, Arkansas, Georgia, Hawaii, Kansas, Louisiana, Missouri, Nebraska, Tennessee, Washington and Wyoming.

International – Australia, Bahamas, Bhutan, Canada, China, Colombia, Costa Rica, Cuba, Ecuador, France, Greece, Guam, Honduras, India, Indonesia, Jamaica, Japan, Kenya, Malaysia, Mexico, Nigeria, Pakistan, Panama, Papua New Guinea, Peru, Philippines, Poland, Puerto Rico, Solomon Islands, St. Lucia, Thailand, Turks and Caicos and United Kingdom.



SPECIAL ACHIEVEMENTS, FACULTY *and* STAFF

Reed Beaman served as a Program Director at the National Science Foundation Division of Biological Infrastructure.

Bruce MacFadden served as Program Officer (rotator) at the National Science Foundation Division of Research on Learning, Lifelong Learning Cluster.

William Marquardt received an Honorable Mention Preservation Award for Rehabilitation of the Randell Research Center Ruby Gill House from the Florida Trust for Historic Preservation.

David Reed appointed University of Florida Research Foundation Professor.

Pam Soltis received the Botanical Society of America Merit Award.

NEW GRANTS *and* CONTRACTS

Florida Museum of Natural History scientists received 39 grants totaling more than \$4.58 million during 2010-11 from the following organizations:

- *American Ornithologists Union*
- *Botanical Society of America*
- *Charlotte Harbor National Estuary*
- *Evolving Earth Foundation*
- *Florida Fish and Wildlife Conservation Commission*
- *Guy Harvey Ocean Foundation*
- *Herb Society of America*
- *Lee County, Fla.*
- *Andrew W. Mellon Foundation*
- *National Geographic Society*
- *National Science Foundation*
- *National Secretariat for Science, Technology and Innovation (Panama)*
- *Paleontological Society*
- *Schlumberger Foundation*
- *The Community Foundation*
- *The Pennsylvania State University*
- *University of Auckland (New Zealand)*
- *University of South Florida*
- *U.S. Department of Agriculture*
- *U.S. Department of Commerce*
- *U.S. Department of Defense*
- *U.S. Department of the Interior*
- *Wenner-Gren Foundation*

TEACHING

- ANG 4905 Individual Research in Anthropology, 19 credits
ANG 5162 Maya Archaeoastronomy and Ethnoastronomy, 3 credits
ANG 6110 Archaeological Theory, 3 credits
ANG 6186 Kinship Theory and Archaeology, 3 credits
ANG 6905 Individual Studies, 24 credits
ANG 6910 Supervised Research, 2 credits
ANG 6915 Research Projects in Social, Cultural, and Applied Anthropology, 15 credits
ANG 6930 Zooarchaeology of Mexico and Central America, 3 credits
ANG 6950 Individual Reading, 2 credits
ANG 6971 Research for Master's Thesis, 6 credits
ANG 7979 Advanced Research, 25 credits
ANG 7980 Advanced Research, 25 credits
- ANT 4914 Honors Thesis Research, 3 credits
- BOT 5725 Vascular Plant Taxonomy, 3 credits
BOT 6935 Herbarium Management, 1 credit
BOT 6935 Molecular Systematics, 3 credits
BOT 6935/6554 Evolutionary Biogeography, 6 credits
BOT/ZOO 6935 Systematic Fruit and Seed Morphology, 3 credits
- ENT 6932 Advanced Research, 3 credits
- ENY 4905/6934 Biology of Lepidoptera, 2 credits
- GLY 4930/5786 L/ZOO 6927 Florida Vertebrate Paleontology-Field Course, 2 credits
GLY 4930/6932 Vertebrate Paleontology: The Fossil Record and the Evolution of Mammals, 3 credits
GLY 6971 Advanced Research, 9 credits
GLY 7979 Advanced Research, 11 credits
GLY 7980 Advanced Research, 20 credits
- IDH 4917 Honors Research, 2 credits
- PCB 6605 Principles of Systematic Biology, 4 credits
PCB 6791 Research for Master's Thesis, 4 credits
- WIS 4905 Structure and Function in Snakes, 2 credits
WIS/BOT 6935 Molecular Ecology, 3 credits
- ZOO 2203C Invertebrate Zoology, 4 credits
ZOO 4905 Individual Studies in Zoology, 16 credits
ZOO 4914 Honors Thesis Research, 12 credits
ZOO 4927/5846C Mammalogy, 4 credits
ZOO 6905 Individual Studies in Zoology, 8 credits
ZOO 6927 Advanced Invertebrate Zoology, 4 credits
ZOO 6927 Avian Anatomy and Specimen Preparation, 4 credits
ZOO 6927 Museum Seminar: Life, the Universe and Everything, 1 credit
ZOO 6927 Structure and Function in Snakes, 2 credits
ZOO 6927/GLY 6932 Broader Impacts of Science on Society, 4 credits
ZOO 6927/GLY 6932 Cenozoic Vertebrates of the Neotropics, 3 credits
ZOO 6927/GLY 6932 PIRE Seminar, 2 credits
ZOO 6927/GLY 6932 Vertebrate Paleontology Seminar, 5 credits
ZOO 6971 Research for Master's Thesis, 3 credits
ZOO 7979 Advanced Research, 35 credits
ZOO 7980 Research for Doctoral Dissertation, 24 credits

Graduate Committees Served: 115

Graduate Committees Chaired: 84

Independent Studies: 39

Collection Loans: 380 totaling 22,365 specimens



EXHIBITS

Museum opens two new exhibitions

The permanent exhibit *Collections are the Library of Life* communicates the history, nature and value of the Museum's collections and research programs. Discovery drawers filled with objects illustrate the important role collections play in teaching about the Earth's climate, ecology, people, evolution, extinction, health, heritage, diversity, resources and beauty.

Dugout Canoes: Paddling through the Americas opened with a splash and remains on view through 2013 before beginning its national tour. Since ancient times, people of the Americas have relied on canoes for daily life and worldly connections. The exhibition takes visitors through the Americas to explore the multi-millennia dugout tradition, still alive and well. Inspired by the discovery of 101 ancient dugouts at Newnans Lake, Florida, the exhibit features artifacts, videos and interactive displays as well as model and life-size canoes.

Focus on Energy

The Museum tackled two new projects related to its conservation mission to educate visitors regarding energy consumption and climate change. Relighting the *Florida Fossils: Evolution of Life and Land* exhibit with metal halide lamps reduced the exhibit's energy use 75 percent. Installation of a 75kW solar array on the Museum roof supplies about 8 percent of the building's electricity. The array also inspired a companion exhibit, *Our Energy Future*, slated to open next year. The exhibit introduces critical energy topics while focusing on ways people can conserve at home.

Changing Exhibits

Temporary exhibits help the Museum present diverse mission-related subjects to visitors. This year two large exhibitions, *CSI: Crime Scene Insects* and *Florida Cattle Ranching: 500 Years of Tradition*, along

Visitors explore the Museum's new *Dugout Canoes: Paddling through the Americas* exhibit. The traveling exhibit will begin its nationwide tour in 2014.

with smaller exhibits, including *Florida Cowboys* and *The Blue Path: Protecting Florida's Springs*, also allowed the Museum to partner with community groups and other institutions.

Traveling Exhibits Program – Museum on the Road!

Two Museum exhibits traveled to five national venues. The Mississippi Museum of Natural Science, Exploration Place, Kansas, and The Wildlife Experience, Colorado hosted *Megalodon: Largest Shark that Ever Lived*. *TUSKS! Ice Age Mammoths and Mastodons* traveled to the Gray Fossil Site Museum in Tennessee and the Macon Museum of Arts and Science in Georgia. The exhibits have toured 21 museums nationwide.



The Museum's *Megalodon: Largest Shark that Ever Lived* and *TUSKS! Ice Age Mammoths and Mastodons* exhibits traveled to various venues across the country last year.



DEVELOPMENT *and* MEMBERSHIP

Doyle Rigdon, from left, Darcie MacMahon, Iris Wall and Chris Machen celebrate the Members Preview of the Museum's *Florida Cattle Ranching and Florida Cowboys* exhibits. Rigdon and Wall shared cattle ranching stories and poetry during opening day activities.

If "impact" was the Florida Museum of Natural History's overall theme this year, Museum donors responded in-kind with generous gifts that will have significant immediate and future impact. Whether "Faculty Now" initiative gifts to establish endowed chairs; "Legacy" gifts to establish endowed research funds; important gifts of private collections, or cash gifts to help support exhibits and public programs, all will impact Museum faculty, staff and visitors.

In response to UF President Bernie Machen's "Faculty Now" initiative, which matches newly created faculty endowments with an annual payment of 4 percent of the gift for three years, the Museum received three deferred gifts to establish endowed chairs in the McGuire Center for Lepidoptera and Biodiversity. McGuire Center Director Tom Emmel established the John F. Emmel Chair in Lepidoptera in honor of his brother who lives in California; John and Tom are writing what is likely to be the definitive text on California butterflies. Renowned butterfly enthusiast and author Gary Noel Ross also capitalized on this initiative with a two-part gift to enhance the Museum's ethnographic collections and establish the Dr. Gary Noel Ross Chair in Lepidoptera. An anonymous friend of the Museum used a bequest to establish an endowed chair in Microlepidoptera Taxonomy. Funds from the "Faculty Now" match will enhance current teaching and research opportunities, while the endowments will provide reliable future funding.

The Museum also received a deferred gift from Suzanne Leahy to establish an Ornithology endowment allowing students and faculty to respond to immediate research opportunities. Leahy worked closely with the Museum's Natural History Department to designate a gift that would be meaningful to her and also useful to the department.

Dr. William and Nadine McGuire continued their generous support of the Museum with another gift of specimens that adds more

breadth to the remarkable Lepidoptera collection. Bradley and Rebecca Stirn also contributed a notable gift of butterfly specimens. UF Student Government contributed \$60,000 to help fund the *CSI: Crime Scene Insects* exhibit and related activities, providing free admission to the fee-based exhibit for all UF students. The Toomey Foundation for the Natural Sciences donated \$30,000 to support a temporary fossil display within the exhibit *Cruisin' the Fossil Freeway*, opening in February 2012, that will bring dinosaurs back the Museum.

I.S.K and Sara Reeves continued their generous support with another beautiful collection of Native American ethnographic material, and Dr. Harry and Sarah Lee donated a collection of shells, continuing their sponsorship of the Museum's Malacology Division. Additional notable gifts include support for the Discovery Room from the Francis & Miranda Childress Foundation, and a unique gift to the Florida Program for Shark Research of a flats boat from Hell's Bay Boatworks custom painted by Guy Harvey. The boat was proudly featured in UF's Homecoming Parade.

Museum membership continues to hold steady and saw an increase in *MembershipPlus*. Membership offers great value and helps support the Museum's important work. The Museum Associates Board hosted another highly successful Passport fundraiser, raising more than \$50,000 to support research, collections, education and programs. The *Passport to Cowboy Florida* theme complemented the Museum's *Florida Cattle Ranching: Five Centuries of Tradition* temporary exhibit for a fun-filled country extravaganza!

The Museum is deeply indebted to its friends and supporters who have given so generously of time, talent and treasure during this difficult economic period. Private support has allowed the Museum to continue to grow and strive to achieve impact. For more information about opportunities to support the Museum, please contact Josh McCoy in the Museum Development Office, 352-273-2086.





EDUCATIONAL PROGRAMMING

School Programs

In an effort to provide under-served communities the opportunity to visit the Museum, the UF Center for Latin-American Studies partnered with the Museum to fund bus transportation for field trips. The initiative served 635 participants from seven schools.

The Museum's Admission Assistance Program allowed 642 children and 118 adults to visit the Butterfly Rainforest exhibit.

Three events provided area educators the opportunity to learn about the Museum's statewide resources and learning experiences for teachers and students, including the annual Educator Open House and teacher programs in February and April.

Education Programs - Camps

Spring campers learned the ABC's of animal "Hunting Tactics" in January, took flight in an educational "Space Odyssey" in February and discovered the alluring topic of "Antarctica" in March. Spring break camps, "Ways We Eat" and "Florida Cowboys," allowed participants to learn about animal eating habits and provided additional insight on a popular temporary exhibit.

Young scientists filled 486 spots in Museum summer camps during seven weeks in June, July and August. Campers immersed themselves in ancient cultures, discovered new facts about the animal kingdom and gained valuable insight on environmental topics. Camps such as "Marine Mammals," "Blue Florida," "Ice Age" and "Creature Construction" provided students with a broad range of experiences highlighting the importance of science in daily life. Field camps on invasive species, insects and plants provided additional hands-on learning opportunities.

An internship program provided staffing for camps and assisted in guiding UFTeach students and other future educators to pursue informal science education careers. Many interns made commitments to focus on science-based learning, continuing their work in education at museums and other youth-oriented institutions. UF Senior and UFTeach minor Nicholas White said his experience at the Museum enhanced his understanding of youth.



Starry Night visitors watch a rose being broken after it was frozen with liquid nitrogen.

"I want to teach middle school, and through the Discovery Room and the summer camp, I gained experience with children who are just shy of entering middle school," White said. "I have a vastly expanded notion of where kids are before they get to me."

Anthony Finelli, another UFTeach student who interned at the Museum, echoed this sentiment, adding that he found new confidence in his abilities as a result of the program.

"As a mathematics major, developing curriculum guides and lesson plans for topics in science and natural history was something that I was uncomfortable with initially," Finella said. "I now feel confident in my ability to research unfamiliar topics and even develop lesson plans on those topics."

Florida Cattle Ranching exhibit opening

More than 2,700 visitors attended February's opening of the *Florida Cattle Ranching* exhibit, making it the second-largest exhibit opening in Museum history. Twenty-four organizations participated in the event, planned in partnership with the UF Office of Sustainability.

Other Public Programs

The Museum collaborated with the UF geological sciences department for the annual "Can You Dig It?" event. More than 1,500 visitors enjoyed hands-on activities while learning about geology, gems, fossils and minerals. The Gainesville Chamber Orchestra also performed a soundtrack to echo the natural melodies of the Grand Canyon.

Showcasing prized possessions and favorite mementos, 93 collectors participated in Collectors Day in January, sponsored by Home Court Sports. More than 2,500 visitors viewed the collections, which included Titanic memorabilia, Star Wars collectables and Simpsons souvenirs.





CENTER for INFORMAL SCIENCE EDUCATION

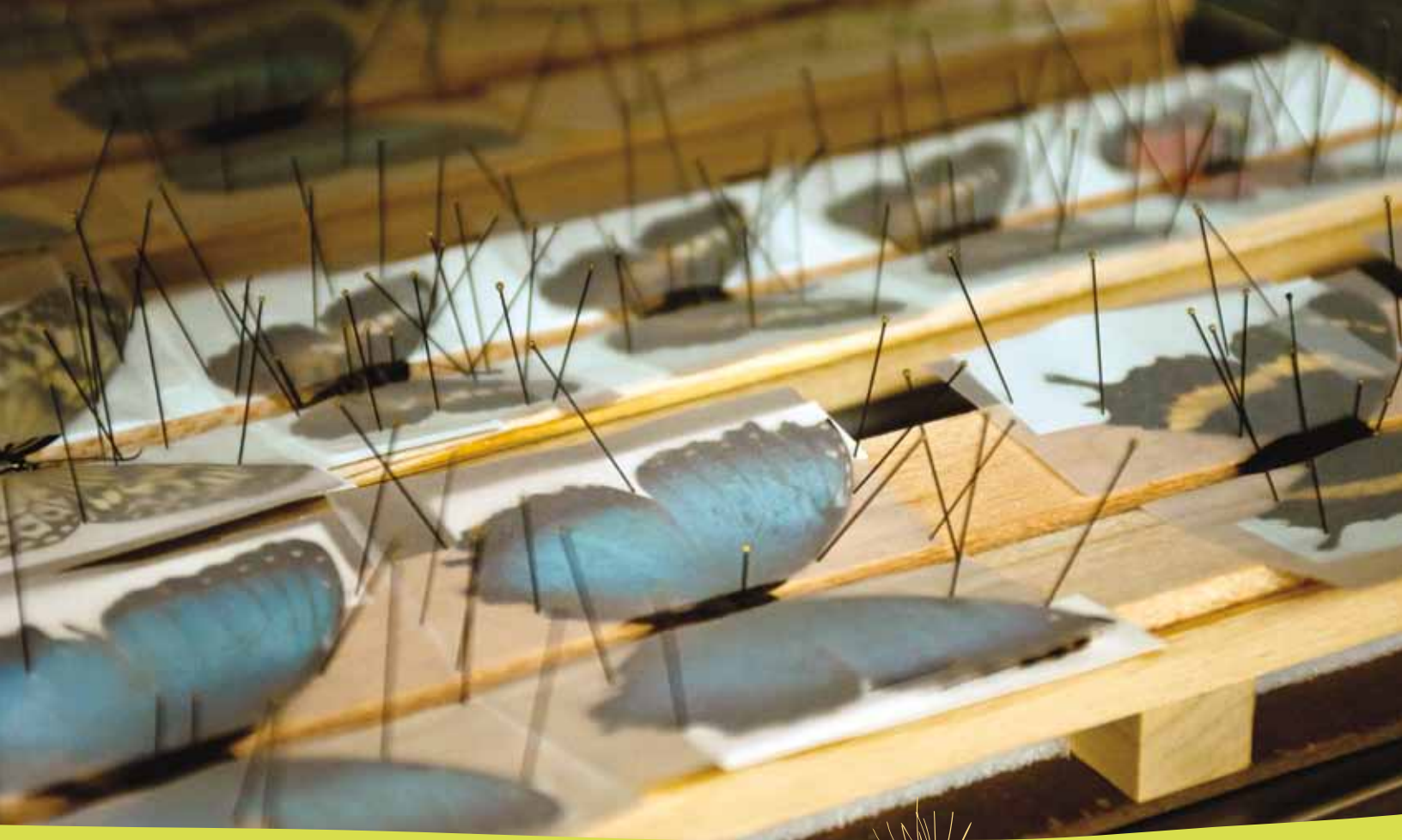
Stephanie Kelly uses the Smart Board in the Museum's new *Explore Research* exhibit.

Explore Research exhibit spotlights UF science

In 2011, the Museum's Center for Informal Science Education launched a new campuswide collaboration of faculty, students and staff to better connect University of Florida researchers with public audiences. The *Explore Research* exhibit is helping UF scientists communicate their findings in a comprehensive multimedia display. Housed in the Museum, the exhibit includes two high-definition monitors and an interactive Smart Board with custom hands-on learning activities, as well as cross-promotion on the UF website and in the university's *Explore* magazine. Featured videos produced by UF students are updated frequently to reflect breaking research news. The project web page hosts current videos and a searchable archive available on the Museum's YouTube and TeacherTube channels. Future plans include connecting researchers and school groups through video conferencing, developing curriculum-based Smart Board activities for classrooms and installing interactive kiosks at key campus and off-site locations. The *Explore Research* exhibit partners include UF's Florida Museum of Natural History, Office of Research, and Scientific Thinking & Educational Partnership.

WINGS participant's exemplary work promotes citizen science

Project Butterfly WINGS: Winning Investigative Network for Great Science continues to inspire youth throughout the state to pursue careers and personal commitments to scientific research. Erin Barbeau, a high school student and *WINGS* participant, recently employed the techniques she learned in the *WINGS* program to investigate the effects of prescribed burns on butterfly populations in her hometown of Port St. Lucie. Barbeau was honored at the 2011 Florida State Science and Engineering Fair for these efforts, winning first place in the environmental sciences category. She also ranked within the fair's top 20 projects out of 400 high school submissions. Barbeau also was awarded Female Youth Volunteer of the Year by the Friends of Florida State Parks for her volunteer work at the Savannas Preserve State Park. She continues to credit the *WINGS* program and website for encouraging and facilitating her projects.



MCGUIRE CENTER *for* LEPIDOPTERA *and* BIODIVERSITY

The McGuire Center for Lepidoptera and Biodiversity expanded its impact on biodiversity education, research and outreach during a very successful year.

Collections acquired from private donors and other institutions raised the estimated number of butterflies and moths housed in the McGuire Center to more than 10 million, one of the world's largest collections. The McGuire Center is one of the world's premier locations for visiting researchers investigating Lepidoptera diversity, evolution, classification, genetics and distribution changes related to global warming and other environmental patterns.

The center also added two new researchers. Assistant Curator Akito Kawahara completed a postdoctoral year at the University of Hawaii where he studied next-generation techniques for gene sequencing and published a number of research studies on Lepidoptera of the Hawaiian archipelago. Assistant Research Scientist Delano Lewis was hired in June, and immediately began obtaining new research grants, authoring publications and teaching in the UF entomology department.

Center staff and graduate students are having a steadily increasing impact on conservation worldwide, using Lepidoptera as flagship and indicator species for monitoring and preserving habitats, wildlife refuges and national parks. Scientists conducted field work in Ecuador, Honduras, Jamaica, Kenya, Malaysia, Papua New

Pinned butterfly specimens dry as part of the preparation process for Museum scientists to add them to the McGuire Center collections.

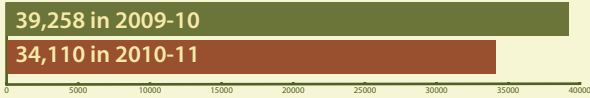
Guinea, the Philippines, Solomon Islands and South Florida. They also are leading Lepidoptera conservation workshops across the U.S. and in other countries to promote a wider appreciation and utilization of captive propagation techniques, habitat restoration and conservation knowledge to protect endangered species and enhance public and governmental support of natural history and biodiversity education.



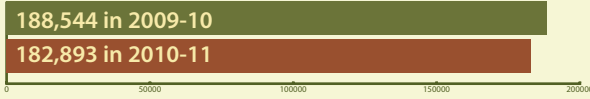
A young visitor explores specimens in the Museum's new *Collections are the Library of Life* exhibit.



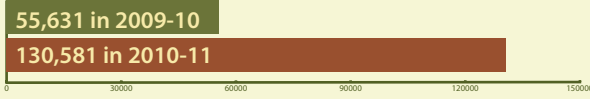
Volunteer Hours Served



Museum Visitor Attendance



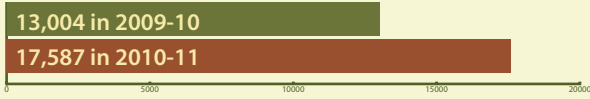
Outreach



Public Programs Attendance

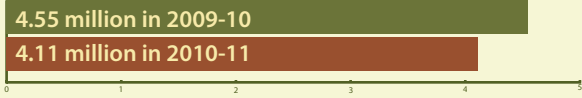


Discovery Room Attendance

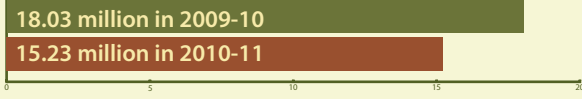


Museum Website

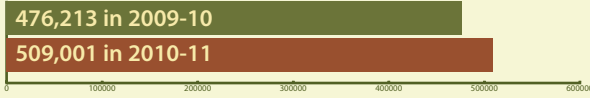
Visits



Pages viewed



Database queries



Media Coverage*

Number of news articles



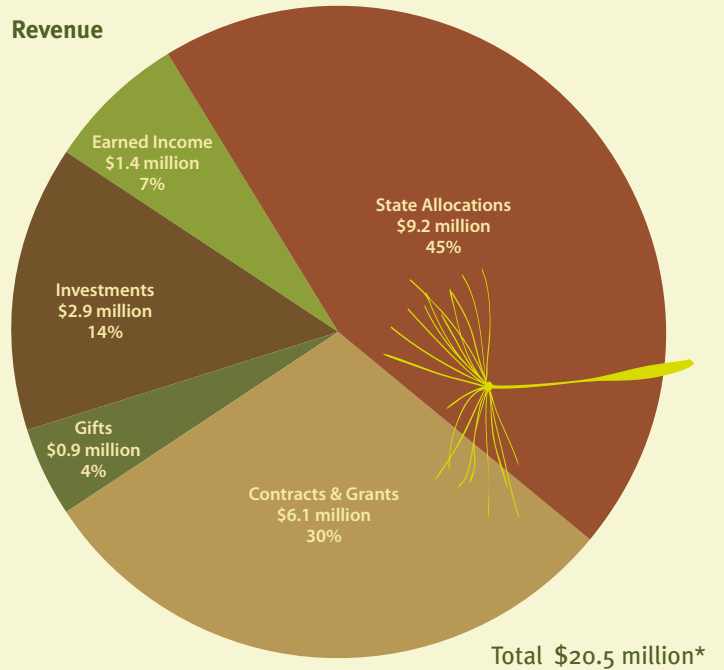
Potential known viewership:



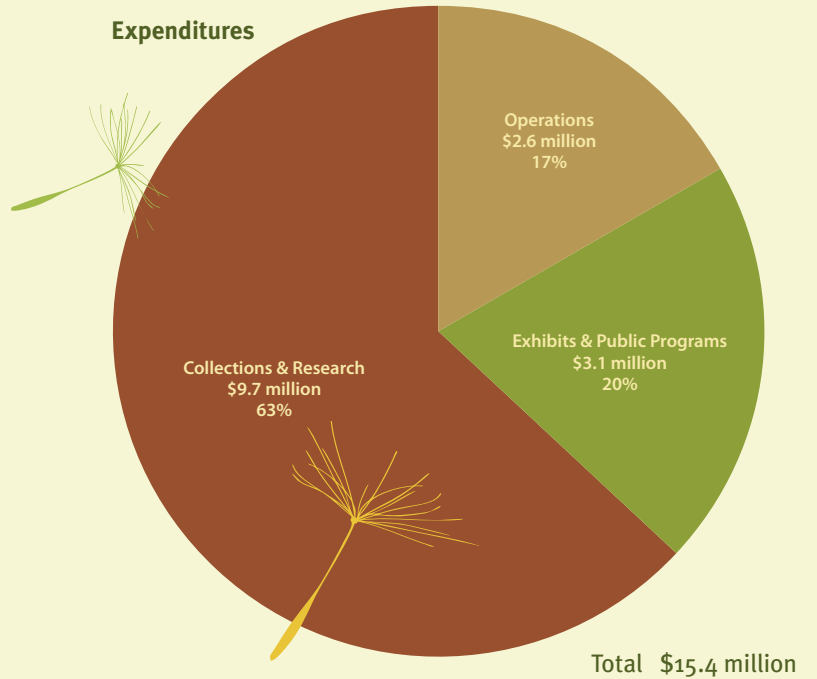
*As reported by Meltwater News Online Media Monitoring

FY 2010-11 Financials

Revenue



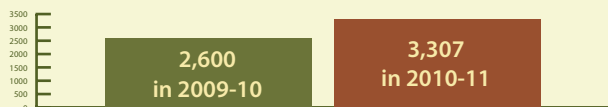
Expenditures



* Includes \$5.1 million in multi-year grant funds and gifts to endowments.

Social Media

Facebook fans (www.facebook.com/FloridaMuseum)



Twitter followers (www.twitter.com/floridamuseum)



HONOR ROLL 2010-2011

\$1 million or more

Anonymous
Thomas Emmel
William & Nadine McGuire
Gary Ross

\$500,000 or more

Suzanne Leahy

\$100,000 or more

Mary Habeck
John Powell Trust
Robert & Ann Powell
Floyd & June Preston
I.S.K. & Sara Reeves
Bradley & Rebecca Stirn

\$50,000 or more

Richard & Barbara Anderson
Benedict Advertising
Florida Museum Associates Board
Guy Harvey Ocean Foundation
Hell's Bay Boatworks
Ann Milner
Progress Energy
UF Student Government

\$25,000 or more

AT&T Real Yellow Pages
Harry & Sarah Lee
Bruce Walsh

\$10,000 or more

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Foundation, Inc.
Gladys Cofrin

Catherine & Richard Crandall
Gainesville Community
Foundation, Inc.
Gainesville Sun
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Middleton Corporation
Toomey Foundation for the
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Pamphalon Foundation, Inc.
F.A.O. Schwarz Family Foundation
Eric & Jennifer Scott
Sear Family Foundation
Douglas Smith & Elizabeth Davis
James and Lori Toomey
Michael Toomey

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Celebrations Catering
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Sylvia Chappell
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Company, Inc.
Karen Walker & William Marquardt
The Hon. Martha & Thomas Warner
Wells Fargo
Jo Wiggins

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Christina & Juan Arango
Association for Tropical Lepidoptera
Lawrence & Carol Aten
Bank of America Foundation
Jon & Marti Berger
Harvey Budd & Ilene Silverman
Joe & Ginny Cauthen
Alicia Churchill
Climb for Cancer Foundation, Inc.
Community Foundation of
New Jersey
John & Gretchen Coyle
Roland & Joyce Daniels
Michael Dion
Teresa Dolan & Stanley Given II
Betty Ann Dunckel
Elizabeth Ordway Dunn
Foundation, Inc.
ExxonMobil Foundation
Ronald & Dianne Farb
Fossil Club of Lee County
Gainesville Regional Utilities
Elizabeth Haeseker &
Hugh Popenoe
Harriett Hulbert
Roy Hunt
John & Peggy Kirkpatrick
Thomas & Virginia Klein
Dennis & Carrie Lee
Madelyn Lockhart
Joshua McCoy & Sarah Mendonca
Robert & Joelen Merkel

Robert Milbrath
Jacqueline Miller
Michael & Becky Moulton
Joyce & Thomas Mutz
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Darlene & Jeffrey Novak
Jack & Sandra Ohanian
Penniman Family Foundation
Annette Perry
Pineland Marina
PPI Construction Management
Anne & Charles Reynolds, Jr.
Deborah Russell & Elmer Wheeler
Jon & Beverly Sensbach
Graig & Kris Shaak
Shands at the University
of Florida
Robert & Beverly Singer
Skyland Pla-Net/Vision Unlimited
Richard & Jean Smith
Robert Spangenberg
The Villages Garden Club North
Dr. Emily Vokes
Wallace Ward III
Richard & Patty Jo Watson
Neil & Mary White
Joe & Eve Wilder
B.J. & Eve Wilder Family
Foundation Inc.
Norris & Nancy Williams
Victor Yellen & Arlene Huszar

Benefactor - \$500 - \$999

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BBI Construction Management, Inc.
John & Tifi Bierley
Stan Charity Blomeley
Cape Coral Charter Schools
Charles & Mary Cichra
David & Marion Colburn
Richard & Gloria Comstock
Anthony & Edith Marquardt Cuda
Nick Davis & Sergio Marentes
Joshua & Sally Dickinson
Lammot duPont
Christine & John Engels
The Florida Cracker Horse
Association, Inc.
Ira & Gerri Gessner
Gulf Elementary School
Desta & Peter Hansen
Jeffrey & Sarah Harrison
Keith & Mirian Hay-Roe
Gene & Evelyn Hemp
Giovanna Holbrook
Robert & Lynne Weissmann Holt



Starry Night provided the opportunity for visitors to view stars, planets and the moon through telescopes.

Bob & Lisa Jerry
 Clayton & Linda Kallman
 Suzanne & Kenneth Kirkpatrick
 Paul & Leslie Klein
 Alan Kroll & Shari Ellis
 Cynthia Larimer
 Robert & Phyllis Levitt
 Norman & Roslyn Levy
 Colby Lowe
 Ralph & Bronia Lowenstein
 Bruce & Jeannette MacFadden
 Jack McCombs
 Geoffrey & Ann Moore
 Bill & Norma Pretsch
 Davis & Judith Rembert
 Davis & Judi Rembert
 Foundation, Inc.
 Arlan & Edith Rosenbloom
 Mary & Robert Rude
 Erin & Brian Scarborough
 Karl & Kathryn Schroeder
 Anna Stober
 Rick & Aase Thompson
 Three Oaks Elementary
 Trafalgar Elementary School
 Brian & Kelly Watson
 Elizabeth Wing
 William & Victoria Winterer

Gerard & Antoinette Emch
 Tara & Bill Ezzell
 Florida Paleontological Society, Inc.
 Forestry Resources, Inc.
 George & Leah Fox
 Robin & Lin Fox
 John & Terry Frost
 Paul & Mary Ellen Funderburk
 Michael & April Funston
 Peter Gallogly & Julia Close
 Steven & Rebecca George
 Jim & Ellen Gershow

Malcolm & Susan King
 Angel Kwolek-Folland & Nathan Folland
 Kha Le-Huu & To-Lan Trinh-Le
 Robert & Melissa Livingston
 Carolyn Lockett
 J. Bernard & Christine Machen
 Elizabeth Mann
 The Hon. Perry & Noel McGriff
 Lauren McIntyre & Wilfred Vermerris
 Joan McTigue
 Gary & Suzy Miller
 Frank & Sharon Moore
 Douglas & Catherine Noble
 June Nogle
 Bonnie Ogle
 William & Sandra Olinger
 Su-Min Oon
 Jacqueline Orlando
 James & Suzanne Orr
 Pearson Education
 Stephen Pearton & Cammy Abernathy
 Nancy Perry
 Edward Petkus
 Edward & Sharron Poppell
 Barbara & Laurence Purdy
 Joshua Pusey & Kristi Cheyney-Pusey
 Quality Web Plus Mailing
 Mark & Lori Rhodes
 Eric & Jessica Rick
 Carol Ritzen & William Kem
 Russell & Brenda Robinson
 The Hon. Phyllis Rosier
 William & Edda Ross
 Wunhild & George Ryschkewitsch
 Beverly Sanders & Steven Benner
 Scherer Construction of N. Florida, LLC
 School District of Lee County
 M. Brent & Kathryn Seagle
 Joseph & Anne Shands
 Tom and Kathy Shannon Family Foundation
 Glenn & Celeste Shitama
 Terry & Marjorie Silverman
 Rodney & DeeDee Smith
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 David Steadman
 Elizabeth Styron & Robert Fulton
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 Michael & Heidi Toomey
 George & Marilyn Tubb
 Timothy & Christine Tucker
 Heather & Kevin Vincent
 William Wallman
 Carl & Brenda Walls
 David & Pamela Wilson
 Charles & Maureen Wood
 Christopher & Carol Woodyard



A summer camp participant attempts to open his mouth as wide as the shark jaws he is holding.

Explorer - \$250 - \$499

Alan Agresti & Jacalyn Levine
 Archaeological Consultants, Inc.
 William Barichivich & Jennifer Staiger
 Alan Barnes & Gail Ellison
 Walter & Pamela Barry
 Brian & Kimberly Beach
 Peter & Gudrun Bennett
 Michael & Judy Blachly
 Roger & Linda Blackburn
 Riley & Peggy Blitch
 Leslie Bram & Mark Flannery
 Jefferson & Linda Braswell
 Mark Brenner & Susan Milbrath
 Joseph Brinton III
 Jane Brockmann & Thomas Rider
 Gary Brooks
 Arthur & Karen Campbell
 Campus USA Credit Union
 Donald & Cecilia Caton
 Joann Chandler
 Ann Cordell
 Lee & Barbara Dockery
 Paul Doughty & Polly French-Doughty
 Ronnie & Ann Duncan
 Gary Edinger & Cynthia Weygant
 Donald & Mary Lou Eitzman

Paul & Christine Gibbs
 David & Casey Glant
 Michael Gorham & Veronica Thiebach
 Virginia Hamner & Bret Bostock
 Frederick & Patricia Harden
 Stacia & David Hays
 Erika Henderson
 Kerry Henderson & Teresa Mullin
 Peggy & James Henderson II
 Linda Hensley
 Carletta & Jim Herring
 Hidden Oak Elementary School
 Theresa Hirko
 Clark & B. J. Hodge
 Glen & Lana Hoffsis
 Jeffrey & Amy Hogue
 Inspiration Studio
 Christopher James & Hillary Craven
 Kenni James & Thomas Pinckard
 Douglas & Sheila Jones
 Richard & Joan Jones
 Verna Jones
 Dale & Robert Kaplan-Stein

SCIENTIFIC PUBLICATIONS

Alfonso, A.S., F.H.V. Hazin, **F. Carvalho**, J.C. Pacheco, H. Hazin, D.W. Kerstetter, D. Murie and **G.H. Burgess**. 2011. Fishing gear modifications to reduce elasmobranch mortality in pelagic and bottom longline fisheries off Northeast Brazil. *Fisheries Research* 108:336-343.

Armstrong, S.D., **J.I. Bloch**, P. Houde and M.T. Silcox. 2011. Cochlear labyrinth volume in euarchontoglires: Implications for the evolution of hearing in primates. *The Anatomical Record* 294:263-266.

Auffenberg, K., K.L. Krysko and H. Rehman. 2010. Studies on Pakistan lizards: *Cyrtopodion baturense* (Khan and Baig, 1992) and *Cyrtopodion walli* (Ingloldby, 1922). *Zootaxa* 2636:1-20.

Beilstein, M.A., N.S. Nagalingum, M.D. Clements, **S.R. Manchester** and S. Mathew. 2010. Dated molecular phylogenies indicate a Miocene origin for *Arabidopsis thaliana*. *Proceedings of the National Academy of Sciences* 107:18724-18728.

Bell, C.D., **D.E. Soltis** and **P.S. Soltis**. 2010. The age and diversification of the angiosperms re-visited. *American Journal of Botany* 97:1296-1303.

Blake, D.B. and **R.W. Portell**. 2011. *Kionaster petersonae*, n. gen. and sp. (Asteroidea), the first fossil occurrence of the Asterodiscididae, from the Miocene of Florida. *Swiss Journal of Paleontology* 130:25-42. DOI:10.1007/s13358-010-0005-0.

Blanton, R.E., **L.M. Page** and B.M. Ennis. 2011. Phylogenetic relationships of *Opsopoeodus emiliae*, with comment on the taxonomic implications of discordance among datasets. *Copeia* 2011:82-92.

Bourque, J.R. 2011. Reassessment of a putative fossil stinkpot (Kinosternidae: *Sternotherus*) from the late Miocene (Clarendonian) of Kansas. *Journal of Herpetology* 45:234-237.



Herbarium collection manager Mark Whitten photographed this rose gentian, *Sabatia grandiflora*.

Buggs, R.J.A., L. Zhang, N. Miles, J.A. Tate, L. Gao, W. Wei, P.S. Schnable, W.B. Barbazuk, **P.S. Soltis** and **D.E. Soltis**. 2011. Transcriptomic shock generates evolutionary novelty in a newly formed, natural allopolyploid plant. *Current Biology* 21:551-556.



Museum registrar Elise LeCompte works with a Seminole dress in the Ethnography collection as she prepares condition reports on the artifacts.

Buggs, R.J.A., P.S. Soltis and **D.E. Soltis**. 2011. Biosystematic relationships and the formation of polyploids. *Taxon* 60:324-332.

Carvalho, F.C., D.J. Murie, F.H.V. Hazin, H.G. Hazin, B. Leite-Mourato and **G.H. Burgess**. 2011. Spatial predictions of Blue shark (*Prionace glauca*) catch rate and catch probability of juveniles in the southwest Atlantic. *ICES Journal of Marine Science* 68(5):890-900.

Carvalho, F.C., D.J. Murie, F.H.V. Hazin, H.G. Hazin, B. Leite-Mourato, P. Travassos and **G.H. Burgess**. 2010. Catch rates and size composition of Blue sharks (*Prionace glauca*) caught by the Brazilian pelagic longline fleet in the southwestern Atlantic Ocean. *Aquatic Living Resource Journal* 23:373-385.

Chanderbali, A.S., M.-J. Yoo, L.M. Zahn, **S.F. Brockington**, P.K. Wall, **M.A. Gitzendanner**, V.A. Albert, J. Leebens-Mack, N.S. Altman, H. Ma, C.W. dePamphilis, **D.E. Soltis** and **P.S. Soltis**. 2010. Conservation and canalization of gene expression during angiosperm diversification accompany the origin and evolution of the flower. *Proceedings of the National Academy of Sciences, USA* 107:22570-22575.

Chen, I. and **S.R. Manchester**. 2011. Seed morphology of Vitaceae. *International Journal of Plant Sciences* 172:1-35.

Chesser, R.T., R.C. Banks, C. Cicero, J.L. Dunn, **A.W. Kratter**, I.J. Lovette, P.C. Rasmussen, J.V. Remsen, Jr., J.A. Rising, D.F. Stotz and K. Winker. 2010. Fifty-first supplement to the American Ornithologists' Union check-list of North American birds. *Auk* 127:726-744.

Chesser, R.T., R.C. Banks, C. Cicero, J.L. Dunn, **A.W. Kratter**, I.J. Lovette, P.C. Rasmussen, J.V. Remsen, Jr., J.A. Rising, D.F. Stotz and K. Winker. 2011. Fifty-first supplement to the American Ornithologists' Union check-list of North American birds. *Auk* 128:600-613.

Chester, S., **J.I. Bloch**, R. Secord and D.M. Boyer. 2010. A new, small-bodied species of *Palaeonictis* (Creodonta, Oxyaenidae) from the Paleocene-Eocene Thermal Maximum. *Journal of Mammalian Evolution* 17:227-243.

Conand, C., **F. Michonneau**, **G. Paulay** and H. Bruggemann. 2010. Diversity of the holothuroid fauna (Echinodermata) in La Reunion (Western Indian Ocean). *The Western Indian Ocean Journal of Marine Science* 9:145-151.

Cox, J.H. and **T.C. Emmel**. 2010. Ecological surveys of the Lepidoptera fauna of the Hunstein Range, East Sepik Province, Papua New Guinea, emphasizing butterfly populations and habitat in the Mt. Samsai area. *Tropical Lepidoptera Research* 20(2):88-99.

Curtis, T.H., D.H. Adams and **G.H. Burgess**. 2011. Seasonal distribution and habitat associations of Bull sharks in the Indian River Lagoon, Florida: A 30-year synthesis. *Transaction of the American Fisheries Society* 140:1213-1226.

Deagan, K.A. 2010. Cuba and Florida: Entwined histories of historical archaeology. pp. 16-28 In: A. Curet and S. Keppels, eds. *Archaeology Behind the Blockade: Recent Archaeological Research in Cuba*. University of Alabama Press, Tuscaloosa.

Deagan, K.A. 2010. Native resistance to Spanish presence in Florida and Hispaniola (1492-1600). pp. 47-65 In: M. Liebmann and M. Murphy, eds. *Native American Resistance to Spanish Colonization of the Americas*. School for American Research, Santa Fe, NM.

Deagan, K.A. 2010. Strategies of adjustment: Spanish defense of the circum-Caribbean colonies, 1493-1600. pp. 17-41 In: E. Klighofer, ed. *First Forts: Essays on the Archaeology of Proto-colonial Fortifications*. Brill Publishers, Leiden, The Netherlands.

Deagan, K.A. and J.M. Cruxent. 2010. La arqueología de La Isabela, República Dominicana: Primer asentamiento Europeo en América (1493-1498). pp. 188-201 In: Juan García Targa and Patricia Fournier García, eds. *Arqueología Colonial Latinoamericana: Modelos de estudio*. British Archaeological Reports S1988, Archaeopress, Oxford, England.

Deagan, K.D. 2010. The Spanish Atlantic world on the eve of Jamestown. pp. 31-52 In: W. Kelso, ed. *Archaeology of Early European Colonial Settlement in the Emerging Atlantic World*. Society for Historical Archaeology Special Publication 8.

Diggers, W., **G.H. Burgess**, A. Hamilton, N. Hopkins and C. Schobernd. 2010. *Squaliolus laticaudus* in the western North Atlantic Ocean: Distributional and life history observations. *Bulletin of Marine Science* 86(4):829-836.

Eble J., R. Toonen, L. Sorenson, L. Basch, **Y.P. Papastamatiou** and B. Bowen. 2011. Escaping paradise: Larval export from Hawaii in an Indo-Pacific reef fish, the Yellow tang (*Zebrasoma flavescens*). *Marine Ecology Progress Series* 428:245-258.



Ornithology curator David Steadman shows Sen. Steve Oelrich some of the Museum's rare bird specimens.

Ehret, D.J., and **J.R. Bourque**. 2011. An extinct map turtle *Graptemys* (Testudines, Emydidae) from the late Pleistocene of Florida. *Journal of Vertebrate Paleontology* 31:575-587.

Ellis, S. and **B.A. Dunckel**. 2010. Creating opportunities through classroom-based early childhood science. *Museums & Social Issues* 5:103-116.

Emery, K. 2010. Zooarchaeology, Chapter 11. In: J.R. Stepp, ed. *Ethnobiology*. Encyclopedia of Life Support Systems. EOLSS Publishers, Oxford, England.

Erickson, A. 2011. Outreach and education in archaeology. *AP Journal* 1:45-54.

Franklin, J. and **D.W. Steadman**. 2010. Forest plant and bird communities in the Lau Group, Fiji. *PLoS ONE* 5(12):e15685. DOI:10.1371/journal.pone.0015685.

Gajdeczka, M.T., **K.M. Neubig**, W.S. Judd, **W.M. Whitten**, **N.H. Williams** and **K.D. Perkins**. 2010. Phylogenetic analyses of the *Gaylussacia frondosa* complex (Ericaceae: Vaccinieae) based on molecular and morphological characters. *Journal of the Botanical Research Institute of Texas* 4:245-260.

Gillette, C.R., **K.L. Krysko**, J.A. Wasilewski, G.N. Kieckhefer III, E.F. Metzger III, M.R. Rochford and D. Cueva. 2010. Oustalet's chameleon, *Furcifer oustaleti* (Mocquard 1894) (Chamaeleonidae), a non-indigenous species newly established in Florida. *IRCF Reptiles & Amphibians* 17:248-249.

Givnish, T.J., J.H. Leebens-Mack, M. Ames Sevillano, J.R. McNeal, P.R. Steele, J.I. Davis, C. Ané, C.W. dePamphilis, M.A. Gandolfo, S.W. Graham, J.C. Pires, D.W. Stevenson, W.B. Zomlefer, B.G. Briggs, L.G. Clark, M.R. Duvall, A. Moore, M. Moore, **D.E. Soltis**, **P.S. Soltis** and K. Thiele. Assembling the tree of the monocotyledons: Plastome sequence phylogeny and evolution of Poales. *Annals of the Missouri Botanical Garden* 97:584-616.

Granatosky, M.C., L.M. Wagner, and **K.L. Krysko**. 2011. *Osteopilus septentrionalis* (Cuban treefrog). *Prey. Herpetological Review* 42:90.

Hall, J.P.W. and **K.R. Willmott**. 2010. Discovery of a new *Lucillella* species (Riodinidae: Symmachiini) in the eastern Andes of Ecuador using the single rope canopy access technique. *Journal of the Lepidopterists' Society* 64:139-146.

Han, K.-L., E.L. Braun, R.T. Kimball, S. Reddy, R.C.K. Bowie, M.J. Braun, J.L. Chojnowski, S. Hackett, J. Harshman, C. Huddleston, B.D. Marks, K.J. Miglia, W.S. Moore, F.H. Sheldon, **D.W. Steadman**, C.C. Witt and T. Yuri. 2011. Are transposable element insertions homoplasy free? An examination using the avian tree of life. *Systematic Biology*. DOI:10.1093/sysbio/syq100.

Hanauer, R.E., C.M. Stracey and **S.K. Robinson**. 2010. Why has an urban adapter, the Northern mockingbird (*Mimus polyglottos*), declined in Florida? *Florida Field Naturalist* 38:135-145.

Havird, J.C., **L.M. Page**, W. Tangjitjaroen, C. Vidhayanon, C. Grudpan and S. Udduang. 2010. A new species of *Lepidocephalichthys* (Teleostei: Cobitidae) with distinctive sexual dimorphism and comments on relationships in southern lineages of Cobitidae. *Zootaxa* 2557:1-18.

Holbrook, J.D. and **K.L. Krysko**. 2011. The Tentacled Snake, *Erpeton tentaculatum* Lacépède 1800 (Homalopsidae), in Florida. *IRCF Reptiles & Amphibians* 18:52.

Honebrink, R., R. Buch, P. Galpin and **G.H. Burgess**. 2011. First documented attack on a live human by a Cookie-cutter shark (Squaliformes, Dalatiidae: *Isistius* sp.). *Pacific Science* 65(3):365-374.



Visitors viewing skeletons on the island in the Florida Fossils exhibit are framed by a steel sculpture of the Terror Bird.

Hulbert Jr., R.C. 2010. A new early Pleistocene tapir (Mammalia: Perissodactyla) from Florida, with a review of Blancan tapirs from the state. *Bulletin of the Florida Museum of Natural History* 49:67-126.

Jarzen, D.M., S.L. Corbett and **S.R. Manchester**. 2010. Palynology and paleoecology of the Middle Miocene Alum Bluff flora, Liberty County, Florida, USA. *Palynology* 34:261-286.



Invertebrate Paleontology collection manager Roger Portell preserves a 25-foot giant squid recovered off the coast of Jensen Beach. The rare specimen is the only one of its kind in the Museum's collection.

Jiao, Y., N.J. Wickett, S. Ayyampalayam, **A.S. Chanderbali**, L. Landherr, P.E. Ralph, L.P. Tomsho, Y. Hu, H. Liang, **P.S. Soltis**, **D.E. Soltis**, S.W. Clifton, S.E. Schlarbaum, S.C. Schuster, H. Ma, J. Leebens-Mack and C.W. dePamphilis. 2011. Ancestral polyploidy in seed plants and angiosperms. *Nature* DOI:10.1038/nature09916.

Karl, S., A. Castro, J. Lopez, P. Chavert-Almeida and **G.H. Burgess**. 2011. Phylogeography of the Bull shark (*Carcharhinus leucas*) inferred from mitochondrial and microsatellite DNA. *Conservation Genetics* 12:371-382.

Keegan, W.F. 2010. Boundary work, reputational systems and the delineation of population movements in the prehistoric Caribbean. pp. 138-155 In: C.L. Hofman and A.J. Bright, eds. *Mobility and Exchange from a Pan-Caribbean Perspective*. Journal of Caribbean Archaeology, Special Publications Number 3.

Keegan, W.F. 2010. From baselines to faunal remains: A comment on Baisre. *Journal of Island and Coastal Archaeology* 5:162-164.

Keegan, W.F. 2010. Demographic imperatives for island colonists. pp. 171-178 In: A. Anderson, K. Boyle and R. Barker, eds. *Global Origins and Development of Seafaring*. McDonald Institute, Cambridge, England.

Keegan, W.F. 2010. Island shores and "long pauses." pp. 11-20 In: S.M. Fitzpatrick and A. Ross, eds. *Island Shores and Distant Places: Archaeological and Biological Approaches to the Pre-Columbian Settlement of the Caribbean*. University Press of Florida, Gainesville, FL.

Knuckey, J., D. Ebert and **G.H. Burgess**. 2011. *Etmopterus jounji* sp. nov., a new species of Lanternshark (Squaliformes: Etmopteridae) from Taiwanese waters. *Aqua - International Journal of Ichthyology* 17(9):61-72.

SCIENTIFIC PUBLICATIONS *continued*



Kratter, A.W. 2010. First record of Ancient murrelet (*Synthliborhampus antiquus*) for Florida. *Florida Field Naturalist* 38:930134.

Kratter, A.W. 2010. Nineteenth report of the Florida Ornithological Society Records Committee: 2009. *Florida Field Naturalist* 38:150-174.

Kratter, A.W. 2011. First record of White-eared hummingbird (*Hylocharis leucotis*) for Florida. *Florida Field Naturalist* 39:52-55.

Krysko, K.L., S.A. Johnson, K.E. Giddens, K.H. Gielow, T.S. Lowke, W.M. Moore, E. Suarez, C.D. Thomas, A.S. Shoelson, J.P. Burgess, **C.A. Smith** and B.A. Garner. 2010. The African Five-lined skink, *Trachylepis quinquetaeniata* (Lichtenstein 1823): A new established species in Florida. *IRCF Reptiles & Amphibians* 17:183-184.

Krysko, K.L., M. Granatosky, Z.W. Fratto, J.L. Kline and M.R. Rochford. 2010. *Caiman crocodilus* (Spectacled caiman). *Prey. Herpetological Review* 41:348-349.

Krysko, K.L. and M.D. Halvorsen. 2010. *Osteopilus septentrionalis* (Cuban treefrog). *Prey. Herpetological Review* 41:339-340.

MacFadden, B.J. 2011. Equine dental evolution: Perspective from the fossil record. Chapter 1, pp. 3-10 In: G.J. Baker, and J. Easley, eds. *Equine Dentistry, 3rd Edition*. Elsevier, Amsterdam, the Netherlands.

MacMahon, D.A. 2010. Beyond the pedestal: Creating culturally relevant exhibitions. *Exhibitionist* 29(2):8-13.

Malinska, H., J.A. Tate, **E. Mavrodiev**, R. Matyasek, K.Y. Lim, A.R. Leitch, **D.E. Soltis**, **P.S. Soltis** and A. Kovarik. 2011. Ribosomal RNA genes evolution in *Tragopogon*: A story of New and Old World allotetraploids and the synthetic lines. *Taxon* 60:348-354.

Malinska, H., J.A. Tate, R. Matyasek, A.R. Leitch, **D.E. Soltis**, **P.S. Soltis** and A. Kovarik. 2010. Similar patterns of rDNA evolution in synthetic and recently formed natural populations of *Tragopogon* (Asteraceae) allopolyploids. *BMC Evolutionary Biology* 10:291.

Manchester, S.R. and Z. Kvacek. 2010. Inflorescences and compound leaves of the extinct *Platanus neptuni* complex in the Oligocene of Oregon, USA. *Acta Palaeobotanica* 50:5-15.



Florida has more than 4,000 plant species, including this showy *Hibiscus* photographed along a roadside.

Manchester, S.R., T.M. Lehman and E.A. Wheeler. 2010. Fossil palms (Areaceae, Coryphoideae) associated with juvenile herbivorous dinosaurs in the upper Cretaceous Aguja Formation, Big Bend National Park, Texas. *International Journal of Plant Sciences* 171:679-689.

Manchester, S.R., X.-P. Xiang and Q.-Y. Xiang. 2010. Fruits of Cornelian cherries (Cornaceae: *Cornus* Subg. *Cornus*) in the Paleocene and Eocene of the Northern Hemisphere. *International Journal of Plant Sciences* 171:882-891.



Paul Robell, from left, former UF Foundation executive vice president, Allen Lastinger and Museum Director Doug Jones enjoy the *Dugout Canoes: Paddling through the Americas* exhibit Members reception.

Marin, I. and **G. Paulay**. 2010. *Pinnotherotonia rumphiusi* gen. et sp. nov., a new furry bivalve-associated pontoniniine shrimp (Crustacea: Decapoda: Palaemonidae) from Palau. *Zootaxa* 2636:37-48.

Marquardt, W.H. 2010. Shell mounds in the Southeast: Middens, monuments, temple mounds, rings, or works? *American Antiquity* 75:551-570.

Mathis, J. and **B.J. MacFadden**. 2010. Quantifying *Leptomeryx* (Mammalia, Artiodactyla) enamel surface area across the Eocene-Oligocene Transition in Nebraska. *Palaio* 25:682-687.

Matthews, D.L. and C. Gielis. 2011. *Adaina ipomoeae* Bigot and Etienne, 2009, new records for Florida and the West Indies (Lepidoptera: Pterophoridae). *Insecta Mundi* 0156:1-3.

Matthews, D.L., **J.Y. Miller** and J. Razowski. 2011. Scientific note: *Mictopsichia cubae* recorded from Honduras (Lepidoptera: Tortricidae). *Tropical Lepidoptera Research* 21(1):43-45.

McCauley, D.J., **Y.P. Papastamatiou** and H.S. Young. 2010. An observation of mating in free-ranging Blacktip Reef sharks, *Carcharhinus melanopterus*. *Pacific Science* 64(2):349-352.

McMurrin, D.M. and **S.R. Manchester**. 2010. *Lagokarpus lacustris*, A new winged fruit from the Paleogene of western North America. *International Journal of Plant Sciences* 171(2):227-234.

Mendonca, F.F., C. Oliveira, **G.H. Burgess**, R. Coelho, A. Piercy, O.B.F. Gadig and F. Foresti, co-authors. 2010. Species delimitation in Sharpnose sharks (genus *Rhizoprionodon*) in the western Atlantic Ocean using mitochondrial DNA. *Conservation Genetics*. DOI 10.1007/s10592-010-0132-6.

Meyer, C.C., **Y.P. Papastamatiou** and K.N. Holland. 2010. A multiple instrument approach to quantifying the movement patterns and habitat use of Tiger (*Galeocerdo cuvier*) and Galapagos sharks (*Carcharhinus galapagensis*) at French Frigate Shoals, Hawaii. *Marine Biology* 157:1857-1868.

Meyer, C.G., **Y.P. Papastamatiou** and T.B. Clark. 2010. Differential movement patterns and site fidelity among trophic groups of reef fishes in a Hawaiian marine protected area. *Marine Biology* 157(7):1499-1511.

Moore, M.J., N. Hassan, **M.A. Gitzendanner**, R.A. Bruenn, M. Croley, A. Vandeventer, J.W. Horn, A. Dhingra, **S.F. Brockington**, M. Latvis, J. Ramdial, R. Alexandre, A. Piedrahita, Z. Xi, C.C. Davis, **P.S. Soltis** and **D.E. Soltis**. 2011. Phylogenetic analysis of the plastid invertid repeat of 244 species: Insights into deeper-level angiosperm relationships from a long, slowly evolving sequence region. *International Journal of Plant Sciences* 172:541-558.

Morgan, A., J. Carlson, T. Ford, L. Siceloff, L. Hale, M. Allen and **G.H. Burgess**. 2010. Temporal and spatial distribution of finfish bycatch in the U.S. Atlantic bottom longline shark fishery. *Marine Fisheries Review* 72(2):34-38.

Morris, A.B., C.H. Graham, **D.E. Soltis** and **P.S. Soltis**. 2010. Reassessment of phylogeographical structure in an eastern North American tree using Monmonier's algorithm and ecological niche modeling. *Journal of Biogeography* 37:1657-1667.

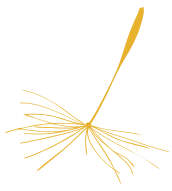
Mörs, T. and **R.C. Hulbert Jr.** 2010. *Anchitheriomys* Roger, 1898 or *Amblycastor* Matthew, 1918 (Rodentia, Castoridae)? Taxonomic implications of a mandible from the Miocene of Florida. *Journal of Vertebrate Paleontology* 30:1899-1902.

Mourato, B., R. Coelho, A. Amorim, **F. Carvalho**, F. Hazin, and **G.H. Burgess**. 2010. Size at maturity and length-weight relationships of the Blurred Lantern shark *Etmopterus bigelowi* (Squaliformes: Etmopteridae) caught off southeastern Brazil. *Ciencias Marinas* 36(4):323-331.

Mullen, S.P., W. Savage and **K.R. Willmott**. 2010. Rapid diversification and not clade age explains high diversity in neotropical Adelpha butterflies. *Proceedings of the Royal Society of London B*. DOI:10.1098/rspb.2010.2140.

Nakamura I., Y. Watanabe, **Y.P. Papastamatiou**, K. Sato and C. Meyer. 2011. Yo-yo vertical movements suggest a foraging strategy for Tiger sharks. *Marine Ecology Progress Series* 424:237-246.





Nie, Z.-L., H. Sun, Z.-D. Chen, Y. Meng, **S.R. Manchester** and J. Wen. 2010. Molecular phylogeny and biogeographic diversification of *Parthenocissus* (Vitaceae) disjunct between Asia and North America. *American Journal of Botany* 97:1342-1353.

Nunez, E.E., **B.J. MacFadden**, J.I. Mead and A. Baez. 2010. Ancient forest and grasslands in the desert: Diet and habitat of late Pleistocene mammals from north-central Sonora, Mexico. *Palaeogeography, Palaeoclimatology, Palaeoecology* 297:391-400.

Núñez Bustos E., P. Favre, M.P. Bertolini, **J.D. Turner** and **A. Sourakov**, 2011. Mariposas diurnas (Lepidoptera: Papilionoidea y Hesperioidea) de la reserva privada Osununu-Parque Provincial Teyu Cuare y alrededores de San Ignacio, Provincia de Misiones, Argentina. *Tropical Lepidoptera Research* 21(1):34-42.

O'Foighil, D., T. Lee and **J. Slapcinsky**. 2011. Prehistoric anthropogenic introduction of partulid tree snails in Papua New Guinean archipelagos. *Journal of Biogeography* 38(8):1625-1632.

O'Loughlin, P.M., **G. Paulay**, N. Davey and **F. Michonneau**. 2011. The Antarctic Region as a marine biodiversity hotspot for echinoderms: Diversity and diversification of sea cucumbers. *Deep Sea Research II* 58:264-275.



Molecular Lab affiliate curator Doug Soltis displays *Tragopogon miscellus*, a species in the daisy family. Soltis co-authored a study showing the hybrid species' genes were reset when it formed, allowing for greater genetic variation.

Oswald, J.A. and **D.W. Steadman**. 2011. Late Pleistocene passerine birds from Sonora, Mexico. *Palaeogeography, Palaeoclimatology, Palaeoecology* 301:56-63.

Page, L.M. and B.M. Burr. 2011. *A field guide to freshwater fishes of North America north of Mexico*. 2nd ed. The Peterson Field Guide Series, Houghton Mifflin Harcourt Co., Boston, MA. 663 pp.

Papastamatiou, Y.P., A.M. Friedlande, J.E. Caselle and C.G. Lowe. 2010. Long-term movement patterns and trophic ecology of Blacktip Reef sharks (*Carcharhinus melanopterus*) at Palmyra Atoll. *Journal of Experimental Marine Biology and Ecology* 386(1-2):94-102.



Graduate research assistant Angelo Soto-Centeno displays a Buffy Flower Bat, *Erophylla sezekorni*, on the island of Grand Bahama.

Papastamatiou, Y.P., B.M. Wetherbee, J.O'Sullivan, G.D. Goodmanlowe, and C.G. Lowe. 2010. Foraging ecology of Cookiecutter sharks (*Isistius brasiliensis*) on pelagic fishes in Hawaii, inferred from prey bite wounds. *Environmental Biology of Fishes* 88(4):361-368.

Papastamatiou Y.P., D. Cartamil, C. Meyer, C. Lowe, B. Wetherbee, K. Holland. 2011. Scales of orientation, directed walks, and movement path structure in sharks. *Journal of Animal Ecology* 80:864-874.

Paulay, G. and **J. Starmer**. 2011. Evolution, insular restriction, and extinction of oceanic land crabs, exemplified by the loss of an endemic *Geograpsus* in the Hawaiian Islands. *PLoS One* 6(5):e19916. DOI:10.1371/journal.pone.0019916

Peraza Lope, C. and **S. Milbrath**. 2010. El Escribano de Mayapán. *Arqueología Mexicana* XVIII(104):18-20.

Peraza Lope, C., **S. Milbrath** and M.D. Kú. 2010. Los murales de Mayapán y la reforma religiosa. *Los Investigadores de la Cultura Maya* 18(II):235-247.

Plongesthee, R., **L.M. Page** and W. Beamish. 2011. *Schistura aurantiaca*, a new species from the Mae Khlong basin, Thailand (Teleostei: Nemacheilidae). *Ichthyological Exploration of Freshwaters* 22(2):169-178.

Portell, R.W. and **R.C. Hulbert**. 2011. Haile Quarries Fieldguide, Newberry, Florida. Southeastern Geological Society, Annual Field Trip Guidebook 53. 24 pp.

Portell, R.W. and **A. Kittle**. 2011. Overview of the invertebrate paleontology of the Anastasia Formation. pp. 8-13 In: G.H. Means, T. Scott and R. Portell, eds. *The Anastasia Formation*. Florida Association of Professional Geologists and American Institute of Professional Geologists, Annual Field Trip Guidebook. May 7, 2011. pp. 8-13.

Pranty, B., J.L. Dunn, S.C. Heinl, **A.W. Kratter**, P.E. Lehman, M.W. Lockwood, B. Mactavish and K.J. Zimmer. 2010. Annual report of the ABA Checklist Committee, 2009. *Birding* 42(6):30-39.

Purdy, B.A., K.S. Jones, J.J. Mecholsky, G. Bourne, **R.C. Hulbert, Jr.**, **B.J. MacFadden**, K.L. Church and M.W. Warren. 2010. Earliest art in the Americas: Incised image of a mammoth on a mineralized extinct animal bone from the old Vero site (8-Ir-9), Florida. *International Federation of Rock Art Organizations Congress*, September. 12 pp.

Reed, D.L. 2010. Evolutionary history of mammalian sucking lice (*Phthiraptera: Anoplura*). *BMC Evolutionary Biology* 10:292.

Rivadeneira, C., **J.M. Allen** and **D.L. Reed**. 2011. Microsatellite loci for testing temporal changes in the population genetics of the Florida mouse (*Peromyscus floridanus*). *Conservation Genetics Resources* 3:135-139.

Robinson, S.K. and J.P. Hoover. 2011. Does forest fragmentation and loss generate sources, sinks and ecological traps in migratory songbirds. pp. 423-449 In: J. Liu, V. Hull, A.T. Morzillo and J.A. Wiens, eds. *Sources, sinks, and sustainability*. Cambridge University Press, Cambridge, England.

Stull, G.W., B.R. Moore and **S.R. Manchester**. 2011. Fruits of Icacinaceae from the Eocene of Southeastern North America and their biogeographic implications. *International Journal of Plant Sciences* 172:935-947.

Silcox, M.T., **J.I. Bloch**, D.M. Boyer and P. Houde. 2010. Cranial anatomy of Paleocene and Eocene *Labidolemur kayi* (Mammalia: Apatotheria) and the relationships of the Apatemyidae to other mammals. *Zoological Journal of the Linnean Society* 160:773-825.

Silvera, K., **K.M. Neubig**, **W.M. Whitten**, **N.H. Williams**, K. Winter and J.C. Cushman. 2010. Evolution along the crassulacean acid metabolism continuum. *Functional Plant Biology* 37:995-1010.



A volunteer organizes signs in preparation for the ButterflyFest plant sale.



Smith, D.C., **K.L. Krysko**, T.A. Sorensen and M.N. Sider. 2011. The Pacific Coast Giant Musk turtle, *Staurotypus salvinii* Gray 1864 (Kinosternidae), a new non-indigenous species in Florida. *IRCF Reptiles & Amphibians* 18:55-56.

Sodhi, N.S., C.H. Sekercioglu, J. Barlow and **S.K. Robinson**. 2011. *Conservation of tropical birds*. Wiley-Blackwell, London. 300 pp.

Soltis, D.E., M.J. Moore, G. Burleigh, C.D. Bell and **P.S. Soltis**. 2010. Assembling the angiosperm tree of life: Progress and future prospects. *Annals of the Missouri Botanical Garden* 97:514-526.

Soltis, D.E., S.A. Smith, **N. Cellinese**, K.J. Wurdack, D.C. Tank, **S.F. Brockington**, N.F. Refugio-Rodriguez, J.B. Walker, M.J. Moore, B.S. Carlswald, C.D. Bell, M. Latvis, S. Crawley, C. Black, D. Diouf, Z. Xi, C.A. Rushworth, **M.A. Gitzendanner**, K.J. Sytsma, Y.-L. Qiu, K.W. Hilu, C.C. Davis, M.J. Sanderson, **R.S. Beaman**, R.G. Olmstead, W.S. Judd, M.J. Donoghue and **P.S. Soltis**. 2011. Angiosperm phylogeny: 17 genes, 640 taxa. *American Journal of Botany* 98:704-730.

Soltis, D.E., **R.J.A. Buggs**, J.J. Doyle and **P.S. Soltis**. 2010. What we still don't know about polyploidy. *Taxon* 59:1387-1403.

Soltis, P.S., J.G. Burleigh, **A.S. Chanderbali**, M.-J. Yoo and **D.E. Soltis**. 2010. Gene and genome duplication in plants. pp. 369-398 In: K. Dittmar and D. Liberles, eds. *Evolution After Genome Duplication*. John Wiley & Sons Inc., Hoboken, NJ.



Visitors view a collection of spurs during opening day of the *Florida Cattle Ranching* and *Florida Cowboys* exhibits.

Sourakov, A. 2010. Natural and sexual selection in satyrine wing patterns: A complex story. *News of Lepidopterists' Society* 52(1):6-7,15.

Sourakov, A. 2011. Faster than a flash: The fastest visual startle reflex response is found in a long-legged fly, *Condylostylus* sp. (Dolichopodidae). *Florida Entomologist* 94(2):367-369.

Sourakov, A. and E.V. Zakharov. 2011. "Darwin's butterflies?" DNA barcoding and the radiation of the endemic Caribbean butterfly genus *Calisto* (Lepidoptera, Nymphalidae, Satyrinae). *Comparative Cytogenetics* 5:191-210. DOI:10.3897/compcytogen.v5i3.1730.

Suárez-Santiago, V.N., C. Díaz de la Guardia, **D.E. Soltis**, **P.S. Soltis** and G. Blanca. *Tragopogon lainzii*, a new species of *Tragopogon* (Asteraceae) segregated from *T. dubius*: Evidence from morphological and molecular data. *Systematic Botany* 36:470-480.

Sun, G., D.L. Dilcher, **H. Wang** and Z. Chen. 2011. A eudicot from the Early Cretaceous of China. *Nature* 471:625-628.



Florida Program for Shark Research technician Bethann Gillett dissects a shark during the Museum's annual Sawfish in Peril Educator Workshop.

Symonds, V.V., **P.S. Soltis** and **D.E. Soltis**. 2010. Dynamics of polyploid formation in *Tragopogon* (Asteraceae): Recurrent formation, gene flow, and population structure. *Evolution* 64:1984-2003.

Templado, J., **G. Paulay**, A. Gittenberger and C. Meyer. 2010. Sampling the marine realm. In: J. Eymann, J. Degreef, C. Häuser, J.C. Monje, Y. Samyn and D. Vandenspiegel, eds. *Manual on Field Recording Techniques and Protocols for All Taxa Biodiversity Inventories + Monitoring*. ABC Taxa 8:273-307.

Thomson, A.W. and **L.M. Page**. 2010. Taxonomic revision of the *Amphilius uranoscopus* group (Teleostei: Siluriformes) in Kenya, with the description of a new species from the Athi River. *Bulletin of the Florida Museum of Natural History* 49:45-66.

Toups, M.A., A. Kitchen, **J.E. Light** and **D.L. Reed**. 2011. Origin of clothing lice indicates early clothing use by anatomically modern humans in Africa. *Molecular Biology and Evolution* 28:29-32.

Trager, M.D. and **J.C. Daniels**. 2011. Size effects on mating and egg production in the Miami Blue butterfly. *Journal of Insect Behavior* 24:34-43.

Wagner D., **Y.P. Papastamatiou**, R. Kosaki, K. Gleason, G. McFall, R. Boland, R. Pyle and R. Toonen. 2011. New records of commercially valuable black corals (Cnidaria: Antipatharia) from the Northwestern Hawaiian Islands at mesophotic depths. *Pacific Science* 65(2):249-255.

Wallis, N.J. 2011. *The Swift Creek Gift: Vessel Exchange on the Atlantic Coast*. University of Alabama Press, Tuscaloosa.

Wallis, N.J., M. Boulanger, J.R. Ferguson and M.D. Glascock. 2010. Woodland Period ceramic provenance and the exchange of Swift Creek complicated stamped pottery in the southeastern United States. *Journal of Archaeological Science* 37:2598-2611.

Wang, H., D.L. Dilcher, R.N. Schwarzwaldner and J. Kvacek. 2011. Vegetative and reproductive morphology of an extinct early Cretaceous member of Platanaceae from the Braun's Ranch locality, Kansas, U.S.A. *International Journal of Plant Sciences*, 172(1):139-157.

Wang Q., **S.R. Manchester** and D.L. Dilcher. 2010. Fruits and foliage of *Pueraria* (Leguminosae, Papilionoideae) from the Neogene of Eurasia and their biogeographic implications. *American Journal of Botany* 97:1982-1998.

Wang, T., D. Surge and **K.J. Walker**. 2011. Isotopic evidence for climate change during the Vandal Minimum from *Ariopsis felis* otoliths and *Mercenaria campechiensis* shells, southwest Florida, USA. *The Holocene*. DOI:10.1177/0959683611400458.

Wangwasit, K., **N. Cellinese** and M. Norsaeangsi. 2010. *Phyllagathis nanakorniana* (Melastomataceae), a new species from Thailand. *Blumea* 55:246-248.

Wenjun, L., G. Ortiz, G. Gimenez, **D.L. Reed**, B. Pittendrigh and D. Raout. 2010. Genotyping of human lice suggests multiple emergences of body lice from local head louse populations. *PLoS: Neglected Tropical Diseases* 4(3):e641.

Willmott, K.R. and J.P.W. Hall. 2010. A new species of *Dynamine Hübner*, 1819 from northwestern Ecuador (Lepidoptera: Nymphalidae: Biblidinae). *Tropical Lepidoptera Research* 20:23-27.

Yoo, M.-J., **A.S. Chanderbali**, N.S. Altman, **P.S. Soltis** and **D.E. Soltis**. 2010. Evolutionary trends in the floral transcriptome: Insights from one of the basalmost angiosperms, *Nuphar advena* (Nymphaeaceae). *The Plant Journal* 64:687-698.

Zhou, W., X. Li and **A.W. Thomson**, 2011. A new genus and two new species of glyptosternine catfish (Siluriformes: Sisoridae) from Yunnan, China. *Copeia* 2011 (2):226-241.



Doctoral student Francois Michonneau received a \$15,000 NSF Doctoral Dissertation Improvement grant to study sea cucumber speciation.

Zhou, W., X. Li and **A.W. Thomson**, 2011. Two new species of the glyptosternine catfish genus *Euchiloglanis* (Teleostei: Sisoridae) from southwest China with redescription of *E. davidi* and *E. kishinouyei*. *Zootaxa* 2871:1-18.



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