



FLORIDA MUSEUM OF NATURAL HISTORY ANNUAL REPORT

»2013-2014«

FY 2013-2014 IMPACT BY THE NUMBERS



ATTENDANCE AND OUTREACH

185,091	Annual visitation
10,061	School program participants
1,145	K-6 camps and classes participants
52	Teacher workshop attendees
9,409	Public Programs attendees
33,527	Hours donated by 560 volunteers
2,768	News articles published with potential viewership of 4.31 billion
8,117	School and public programs outreach participants
141,059	Visitors to Museum traveling exhibits at other venues
3	Million Web page visits*
8.8	Million Web page views*
216,158	 Pinterest followers
11,328	 Facebook fans
4,119	 Twitter followers
412	 YouTube followers

**The Museum is now using Google Analytics for Web traffic analysis, which resulted in a shift in data reporting compared to last fiscal year.*

COLLECTIONS AND RESEARCH



172	Peer-reviewed publications
1,540	Scientific and other visitors to collections
545	Collection loans of nearly 36,000 specimens and artifacts
165	Undergraduates working in collections
40+	Million total specimens
61	New and continuing grants and contracts worth \$7.3 million
23	Countries including the U.S. where Museum scientists conducted research
19	States including Florida where Museum scientists conducted research
34,588	Accessions to collections
423,389	New specimens and artifacts cataloged



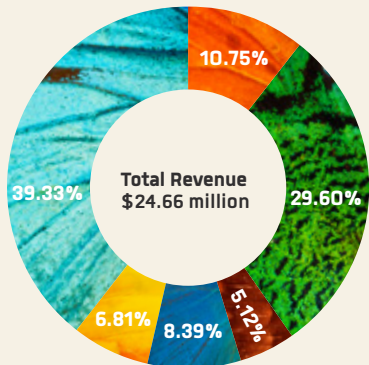
STAFF AND FACULTY TEACHING

56	Courses taught by Museum faculty
107	Graduate committees chaired
167	Graduate committees served
59	Independent Studies supervised



FY 2013-2014 FINANCIALS

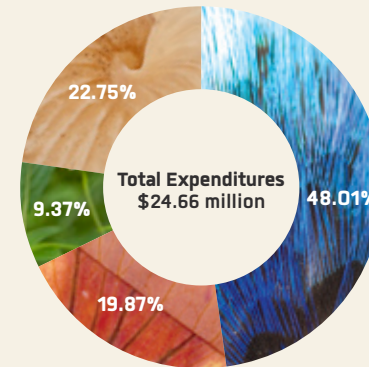
REVENUE



Gifts	\$2.65 million
Grants and contracts	\$7.30 million
Other UF income	\$1.26 million
Private program support	\$2.07 million
Earned income	\$1.68 million
UF/State allocation	\$9.70 million

Total Revenue \$24.66 million

EXPENDITURES

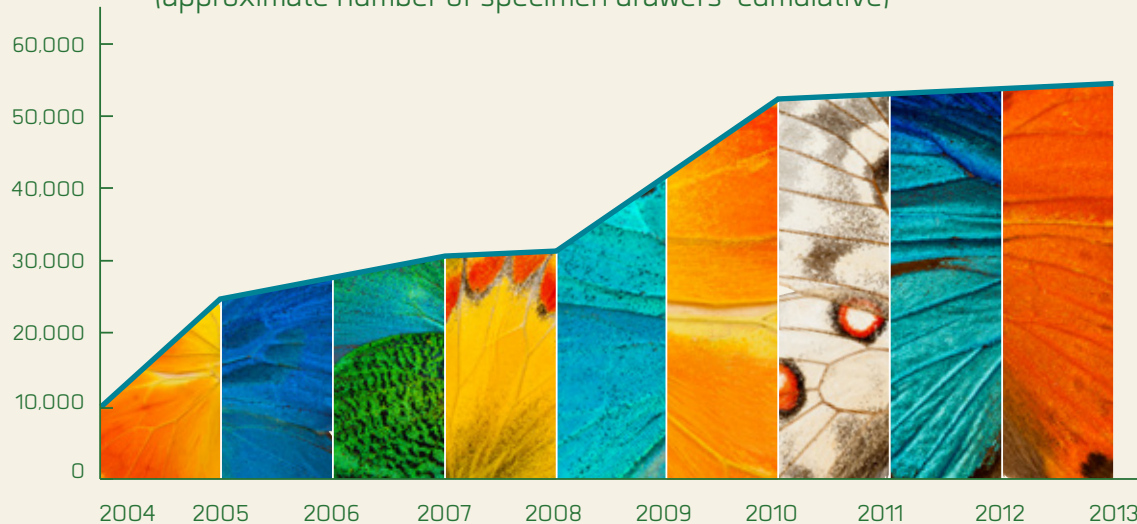


Salaries and benefits	\$11.84 million
Operating	\$4.90 million
Overhead/other fees	\$2.31 million
Transfers for future programming	\$5.61 million

Total Expenditures \$24.66 million

The McGuire Center for Lepidoptera and Biodiversity COLLECTION GROWTH 2004-2013

(approximate number of specimen drawers-cumulative)



Year	No. of drawers
2004	10,000
2005	25,000
2006	28,000
2007	31,000
2008	32,000
2009	42,000
2010	52,000
2011	53,000
2012	54,000
2013	54,000



A MESSAGE FROM THE DIRECTOR



In 2014 we celebrate the 10th anniversary of our outstanding McGuire Center for Lepidoptera and Biodiversity, which first opened to the public in August 2004. Since that time more than 1 million visitors have enjoyed the live butterfly experience of our iconic *Butterfly Rainforest*, the most popular exhibit at the Museum, which inspires guests to marvel and appreciate the delicate beauty of our natural world.

Over the past decade, under the visionary leadership of Founding Director Dr. Thomas Emmel, the McGuire Center has grown to become the world's leading institution devoted to the study of butterflies and moths. As detailed in this annual report, the rapidly growing butterfly and moth collection is one of the largest on Earth, and the McGuire Center's breadth and depth of Lepidoptera research, teaching and public education efforts are unparalleled.

As the McGuire Center enters its second decade with Dr. Jaret Daniels as director and Dr. Emmel coordinating collection acquisition and institutional advancement activities, we look forward to even greater accomplishments and impact.

In terms of Collections and Research accomplishments, faculty and staff published more than 170 peer-reviewed scientific and technical articles this year. At the same time they managed approximately \$30 million in total external grant support (including multi-year awards) for research and collection activities. These numbers

illustrate the exceptional productivity of our outstanding Museum staff. As an example, the Museum's Paleontology Division hosted the 10th North American Paleontological Convention, which brought more than 500 paleontologists from 28 countries to Gainesville in February.

On the public side of the Museum, Darcie MacMahon was promoted to Assistant Museum Director in charge of Exhibits and Public Programs. Formerly Director of Exhibits, Darcie leads a talented staff focused on inspiring and educating Museum visitors of all ages. Her leadership was responsible for the outstanding *First Colony: Our Spanish Origins* exhibition, which opened in historic St. Augustine, paving the way for the city's 450th anniversary celebration in 2015.

Closer to home, the Museum opened a surfing double-header in the fall of 2013 — *Surfing Florida: A Photographic History* and *Surf Science: Waves and Wildlife*. These featured exhibits were followed by the extremely popular *Wolf to Woof: The Story of Dogs* exhibit, which had great audience appeal.

I also am pleased to report the Museum was awarded two curatorial positions as part of UF's Preeminence Plan. Joining our staff in the coming year will be Dr. Robert Guralnick, from the University of Colorado, in bioinformatics/big data, and Dr. Charles Cobb, from the University of South Carolina, in historical and environmental archaeology. We welcome them to a vibrant Florida Museum of Natural History!

Sincerely,

Douglas S. Jones, Director



COLLECTIONS AND RESEARCH

The Department of Natural History had an extremely successful year, with 24 faculty overseeing about \$30 million in total external grant support for research and collection activities, including \$2.59 million in new grants. Faculty and staff published 172 peer-reviewed books and journal articles, chaired 107 graduate committees, and served on committees for another 167 students. In addition, 165 undergraduates worked in Museum labs and collections. Museum faculty taught more than 50 courses through the departments of Anthropology, Biology, Entomology & Nematology, Geology, Wildlife Ecology & Conservation and others.

Museum collections grew tremendously with more than 34,000 accessions totaling 423,000 new specimens and artifacts. Museum researchers hosted more than 1,400 scientific visitors and processed 545 loans of nearly 36,000 specimens. Many collections have started migrating to new online databases, a process proving to be less time consuming than expected. The Museum has adopted the Specify database for biological collections and Re:discovery for anthropological collections, both of which will offer many new features to online users.

The Museum also hired two new curators as part of UF's Preeminence Plan. Dr. Charles Cobb arrives in the fall of 2014 and will serve as the Lockwood Chair in Historical Archaeology, and Dr. Rob Guralnick, Curator of Informatics, will arrive in the spring of 2015. The Natural History Department was also awarded two new hires as part of the UF Preeminence Plan for the coming year. These will be part of five new faculty hires awarded to the newly formed UF Biodiversity Initiative housed in the Museum. Although the positions are open to any taxonomic group, special consideration will be given to curators working on amphibians, reptiles and fishes.

34,588

Accessions to collections

ANTHROPOLOGY AND ARCHAEOLOGY

Caribbean Archaeology

The Caribbean Archaeology Program continues to play a leading role internationally. The program recently partnered with Leiden University of the Netherlands as part of its NEXUS 1492 EU-supported project. This partnership will facilitate the exchange of students, postdoctoral researchers and faculty between UF and Leiden University, and promote joint fieldwork. Curator Bill Keegan also conducted collections and field research in the U.S. Virgin Islands. A component of this collaboration was publication of the *Oxford Handbook of Caribbean Archaeology*. The Caribbean Archaeology Program is currently translating Dr. Roberto Valcárcel's book on the El Chorro de Maíta archaeological site in Cuba for the University Press of Florida. The Program's online *Journal of Caribbean Archaeology* also has grown substantially in the past year in the number of submissions. Caribbean Archaeology students Isaac Shearn and Carmen Laguer Díaz completed their doctorates on the archaeology of Dominica and archaeology of national identity in Puerto Rico, respectively.

Environmental Archaeology

In southeastern North America, Collection Manager Irvy Quitmyer continued National Park Service-supported zooarchaeological research at Canaveral National Seashore and Cumberland Island National Seashore. North Florida Archaeology Collections Manager Donna Ruhl conducted archaeobotanical work on St. Catherines Island in Georgia and Pineland in South Florida. In the Maya area, graduate student Lisa Duffy used residue analysis from Museum-curated artifacts to reveal new ingredients to the ancient Maya chocolate recipe and graduate student Scott Macrae used light detection and ranging remote sensing to recreate terrace and water management at Minanha, Belize. Curator Kitty Emery's NSF-supported turkey domestication research used isotopes to reveal ancient local Maya husbandry of ocellated and northern turkeys, and her ancient environmental management research continued

in the Motul polity in Guatemala. The Environmental Archaeology range hosted 48 international and national visitors and 78 guests for collections tours. Environmental Archaeology continued the vital digitizing of archives, data and specimens, and collaborated with Sean Miller from the UF Art and Art History Department on an exciting artistic interpretation of collections for the *Repurposing the Wunderkammer: Building a New Space for Science and Art* exhibit at the Harn Museum of Art.

Florida Archaeology

Curator Neill Wallis continued research on two NSF-supported projects investigating the development of complex social networks and large residential communities in Florida between A.D. 200 and 800. The multisite studies integrate analyses of Swift Creek and Weeden Island pottery by students and staff, including petrographic analyses of thin sections by Ann Cordell in the Ceramic Technology Laboratory. Stable isotopes from related bioarchaeological collections are being used to assess patterns of diet and mobility across the region. Wallis directed fieldwork at the Garden Patch site in Horseshoe Beach, Florida, a major residential and ceremonial center established circa A.D. 300. With support of the Felburn Foundation, Collections Manager Donna Ruhl and colleagues continued to study and care for Florida's ancient dugout canoes. Major curatorial activities included customizing the newly adopted Re:discovery Proficio collections database, curation of newly accessioned collections from the Garden Patch and Parnell sites, rehabilitation of bioarchaeological collections and processing and thin sectioning of a backlog of comparative clay samples.





Latin American Art and Archaeology

The *Cerros Research Online Catalogue*, a project funded with a three-year, \$52,965 NEH grant, was completed and is now available through the Museum website at: <http://www.flmnh.ufl.edu/index.php/latinarch/home/>. Primary Investigator Susan Milbrath and Co-primary Investigator Debra Walker worked with graduate students and the Office of Museum Technology to develop an online database that features high quality photos of Cerros artifacts, research documents and a selection of 3-D images. The documents section includes digitized versions of 10 field logs with more than 18,500 lots recorded, as well as a list of 108 ceramic types, a structure and excavation correlation, a small-finds catalog, maps and bibliography. The collection, originally accessioned in 2009 through a direct transfer from Belize's Institute of Archaeology, is now housed in new storage cabinets and cataloged for use by researchers. Two University of Florida anthropology graduate students are conducting dissertation research using the Cerros collection.

Historical Archaeology

Distinguished Research Curator Emerita Kathleen Deagan continued excavations at the Fountain of Youth Archaeological Park, site of the initial 1565 settlement of St. Augustine, Florida. Collection Manager Gifford Waters resumed excavations at Mission Nombre de Dios in St. Augustine, focusing on the coquina and tabby foundations of a structure believed to be the church and shrine ordered built in 1677. Deagan and Waters also assisted in the content development, artifact selection, design and installation of the Museum's *First Colony: Our Spanish Origins* exhibition. Waters and staff also made substantial progress in the continued long-term curation and care of more than 2 million artifacts and associated field and lab records in the Historical Archaeology collections.

NEONTOLOGY

Florida Program for Shark Research

In addition to maintaining the International Shark Attack File and International Sawfish Encounter Database curated by George Burgess, the Florida Program for Shark Research group has been placing state-of-the-art acoustic and satellite tags on sawfishes 6 to 15 feet long to learn more about their daily and long-term movement patterns, choice of critical habitat and home ranges. Other ongoing research activities include collaborative global shark conservation and fishery initiatives in Brazil, Northwest Africa and Portugal; taxonomic studies on deep sea lantern- and gulper-sharks and preparation of a book addressing the marine fishes of Florida. Another book, *Sharks – The Animal Answer Guide* was published by Johns Hopkins University Press earlier this year. Florida Program for Shark Research initiatives have benefitted greatly by the continuing support of the Guy Harvey Ocean Foundation and Hell’s Bay Boatworks.

Genetic Resources Repository

The Genetic Resources Repository now contains nearly 50,000 DNA and tissue samples, with representation from all Florida Museum neontological ranges. Collection Manager Terry Lott, with assistance from iDigBio Research Assistant Claudia Segovia-Salcedo, accessioned several thousand additional samples and prepared for migration of the Repository database to Specify. Lott and Segovia-Salcedo also prepared for the addition of a new liquid nitrogen freezer obtained through an NSF grant to Curator Pam Soltis and lepidopterists Akito Kawahara, Keith Willmott and Jackie Miller to support Lepidoptera collections. Postdoctoral researcher Kurt Neubig conducted a study of the effects of different drying, storage and preservation techniques for plant tissues and DNA samples to guide future collection and curatorial practices at the Museum's Genetic Resources Repository and similar facilities worldwide. Using information in the Repository database, iDigBio Research Assistant Grant Godden and iDigBio Staff IT Specialist Kevin Love developed an index to DNA banks and genetic resource repositories across the country.

Herbarium

The Herbarium contains about 250,000 accessioned sheets of vascular plants with an excellent representation of the flora of Florida, the southeastern U.S. and Haiti. The Bryophyte and Lichen collection contains about 160,000 specimens from all continents, with an excellent representation of species from Florida and tropical areas including Brazil, Costa Rica and Venezuela. Herbarium staff and students participate in diverse projects spanning traditional morphological plant systematics, floristics, plant anatomy, molecular systematic analyses and pollination ecology. Major focus areas include the plant families Ericaceae, Melastomataceae and Orchidaceae, Florida floristic inventories and cultivated plant systematics. Herbarium online databases and image galleries are being developed with a thematic focus and the collections catalog includes nearly 111,000 searchable specimens and 50,000 high-resolution digital images. Current projects include Flora and DNA Barcoding of the Ordway Swisher Biological Station, DNA Barcoding of the Flora of Florida, Digitization of North American Bryophyte and Lichen Specimens from Five Florida Herbaria and Systematics of the Melastomataceae tribe Miconieae.

Herpetology

Curator Max Nickerson and researchers from Arizona State University and North Carolina developed a program to investigate environmental factors affecting the ancient North American giant aquatic Hellbender salamander populations. Nickerson and colleagues continue long-term studies of turtle and amphibian populations in large spring-fed rivers, and relationships between fish and salamander populations. They presented two papers at meetings of the American Society of Ichthyologists and Herpetologists, The Herpetologists' League and Society for the Study of Amphibians and Reptiles and one at The Herpetology Conference, chaired by Nickerson. Collection Manager Kenneth Krysko and colleagues described two new species of Alligator Snapping Turtle, and continued phylogenetic analyses of the threatened Indigo Snake. Krysko continues to lead studies of invasive species of amphibians and reptiles in Florida. The Herpetology Division also continues to increase online collection access via digitization.



1,540 Scientific and
other visitors to collections



423,389

New specimens and
artifacts cataloged

Ichthyology

Ichthyology researchers focused on the biogeography of Florida freshwater fishes and on NSF-funded studies of fish systematics. As part of the systematic studies, Curator Larry Page led his 10th expedition to Southeast Asia, adding large numbers of specimens and tissues for DNA analysis to the Museum's collections. As part of a global emphasis on freshwater fish studies, a Museum-led team organized a conference in Malaysia – the fourth sponsored by UF – resulting in the formation of an Asian Society of Ichthyologists. Postdoctoral researcher Daniel Lumbantobing, doctoral student John Pfeiffer and research assistant Zachary Randall attended the conference and participated in the expedition. Specimens from the expedition were registered in the Ichthyology Collection using Specify database software designed to manage information in biological collections. Ichthyology became the first UF collection to “go live” as part of a migration of all Museum databases to Specify. The portal allows the public and researchers to map data and view specimen images.

Informatics

The Informatics Division has been involved in a number of activities led primarily by Associate Curator Nico Cellinese. Major ongoing developments include The Tree of Life Knowledge and Information Network, <http://www.tolkin.org>, a Web application that serves as a distant collaborative tool to store and manage biodiversity data, and RegNum, <http://wiki.flmnh.ufl.edu/regnum>, an online repository of clade names and their phylogenetic definitions. Cellinese's research lies at the interface of informatics and biodiversity science, and she continues her collaboration on projects such as Biological Science Collections Tracker, known as BiSciCol and available online at <http://biscicol.blogspot.com>, which aims to build an infrastructure to tag and track scientific



collections and all of their digital and physical derivatives. Recently, she has been working on developing new approaches that rely on ontologies and semantic reasoning for naming and querying the Tree of Life. Cellinese also continues her active research on the evolution, systematics and biogeography of flowering plants.

Invertebrate Zoology

The Invertebrate Zoology group had an active field year documenting biodiversity with surveys in three oceans and nine states. Major marine surveys were pursued in French Guiana, Line Islands, Maldives, New Caledonia, New Guinea, Philippines and the Red Sea, with smaller efforts in Europe, Florida, Guam, Palau and Washington. Land mollusks were documented in Alabama, California, Florida, Hawaii, North Carolina, South Carolina, Tennessee, Washington and West Virginia. Students and staff are currently studying land snails, sea slugs, sea cucumbers, brittle stars, crabs, copepods (fish lice) and worms, while a large network of collaborators are studying collections of numerous other groups assembled from field surveys. Research highlights include the description of a bizarre new deep sea hermit crab, shaggy sea cucumber and Mexican land snails, discovery of the establishment of a meningitis-causing roundworm transmitted by snails in Florida and a study documenting the diversification of coral barnacles.

The Katharine Ordway Chair in Ecosystem Conservation

The Ordway Lab, which includes six graduate students and more than 15 undergraduates led by Ordway Chair Scott Robinson, studies the ecology and conservation of birds in Florida and the tropics. Specific research involves studying how bird communities change along environmental gradients and using these data to predict how future populations will respond to changes in human land use and climate. Current research projects focus on elevation and fragmentation gradients in Peru and Colombia, soil gradients in Peru, precipitation gradients in Colombia and urbanization gradients in Florida. To understand the causes of these changes, researchers

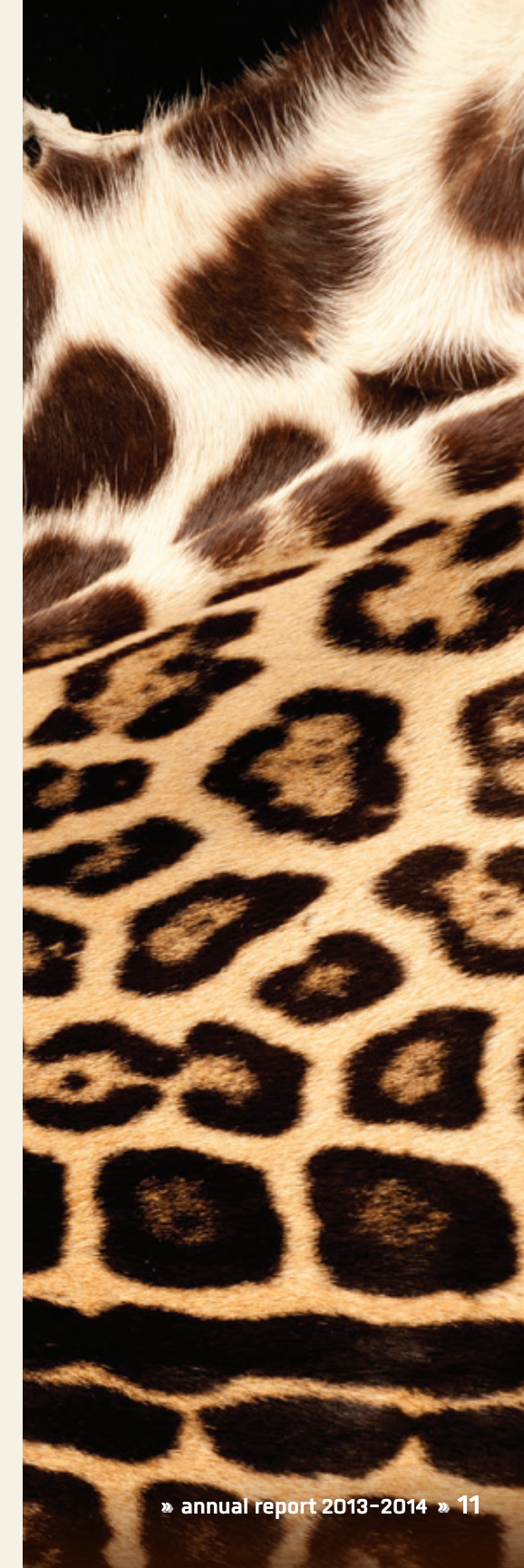
study community composition, gene flow among populations, behavioral interactions between species, nesting ecology, and physiological and behavioral adaptations to local environmental conditions. Museum researchers are expanding these studies to sites in Asia, especially China, Africa and Papua New Guinea.

Mammalogy

Longtime Collection Manager Candace McCaffery retired last summer. Although sad to see Candace go, the department is delighted to welcome Collection Manager Verity Mathis. Two Ph.D. Mammalogy students graduated last year. Angelo Soto-Centeno completed his doctorate on Caribbean bats in December 2013 and is now a postdoctoral fellow at the American Museum of Natural History in New York. Bret Boyd completed his doctorate studying the complete genomes of mammal lice and the endosymbiotic bacteria that live within them. He is now a postdoctoral researcher at the University of Illinois. In addition, The Mammal Collection migrated its database to Specify, which provides much greater access to the digital information associated with specimens in the collection. The process was time consuming but quite seamless thanks to the hard work of Mathis and Warren Brown with the Office of Museum Technology. Many students gave talks at national and international meetings, published papers and mentored undergraduates in the lab. Curator David Reed gave invited talks at the Symposium on Pathogens and Parasites of Primates at the American Society of Physical Anthropologists in Knoxville, Tennessee, and at the National Association of Science Writers conference in Gainesville.

Molecular Systematics and Evolutionary Genetics Laboratory

Curators Doug and Pam Soltis and their postdoctoral researchers, visitors and students studied a range of topics related to plant evolution, especially angiosperm phylogeny and the genetic and evolutionary consequences of polyploidy, known as genome duplication. After more than a decade of work focused on the plant



Date	Collector	Locality
April 1	J.B. Joseph	Gainesville, 2 mi S.
"	J.V. Dennis	Evinston
7	J. Fickett	Bivens Arm
1	E.W. Cooper	Gainesville
21	"	Bivens Arm
15	"	Levy Co.: Cedar Key
12	S.R. Young	Alachua Co.: Austin Cary Forest
6	C.G. Fogle	Lake Santa Fe
10	J.V. Dennis	Cross Creek
23	W.L. Sparkman	Sugarfoot Hammock
9	C.E. Mounts	"
"	J. Fickett	"
24	J. Baumeil	Volusia Co.: Cross Creek
5	J.V. Dennis	Alachua Co.: Daytona Beach
30	C.G. Fogle	"
30	J.V. Dennis	"
March 1	J.V. Dennis	"
Se.	J.V. Dennis	"

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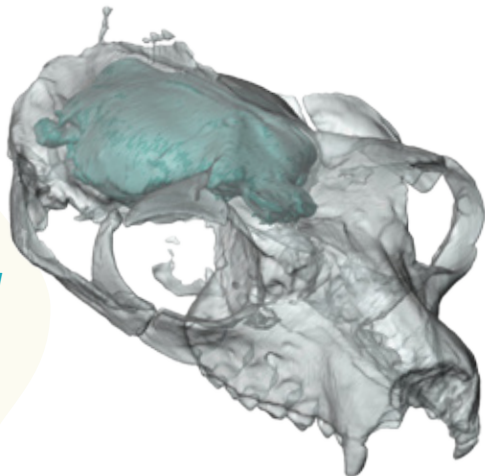
19 States including Florida where Museum scientists conducted research

at the Botany 2014 conference in Boise, Idaho, followed by a paleobotanical field trip organized by Manchester and University of Idaho colleague Bill Rember. Curatorial activities overseen by Collection Manager Hongshan Wang included archiving 3,000 images, bringing the total number of images of paleobotanical specimens in the Museum collections to about 10,000.

Vertebrate Paleontology

Collection Manager Richard Hulbert and staff made substantial progress on the curation and digitization of fossils from Panama and Florida funded by an NSF collections grant and the *Fossils in the Cloud* project. Curator Jonathan Bloch continued his research and fieldwork on fossil vertebrates from Wyoming and northern Colombia, and was awarded a three-year NSF grant to study primate origins using 3-D scans of Eocene fossils from the Bridger Basin in Wyoming. He also started a field project collecting Eocene-Oligocene fossils from Indonesia. Bloch and Curator Bruce MacFadden continued research, collecting and outreach efforts in Panama associated with the Panama Canal Project-Partnership for International Research and Education program. Their outreach included teaching and mentoring students, and many invited lectures to fossil clubs, K-12 schools, museums and universities. MacFadden also received a \$1.97 million NSF grant to create a nationwide network of amateur and professional paleontologists. Bloch was promoted to curator and MacFadden to distinguished professor.

Curator Jonathan Bloch continued his research and fieldwork on fossil vertebrates from Wyoming and northern Colombia, and was awarded a three-year NSF grant to study primate origins using 3-D scans of Eocene fossils from the Bridger Basin in Wyoming.





MCGUIRE CENTER FOR LEPIDOPTERA AND BIODIVERSITY



Since the McGuire Center opened to the public in August 2004, the ensuing decade has been one of tremendous productivity, astonishing growth and constant strides to keep up with the wide breadth of technology and research advancements available to the study of Lepidoptera and biodiversity. Built on the foundation of collections, the holdings have more than doubled over the past 10 years, making this the fastest-growing collection in the world. The collection is comprehensive taxonomically, containing the majority of the world's described butterfly species and many of the estimated 245,000 moth species. The myriad of specimens and their associated data are the real strengths. Widely used by an increasingly global community of scientists, the collection documents past and present-day patterns of biological diversity and forms the basis for research on topics ranging from global climate change and emerging pests to evolution and organism conservation.

While adeptly managing and growing the collections over the past 10 years, McGuire Center curators chaired or served on 87 graduate committees, taught 49 courses and hosted more than

1,300 scientific visitors. The research productivity of McGuire Center staff and students is truly staggering and generated 576 scientific publications, more than 20 books, over 200 presentations at conferences and seminars and 39 new and continuing grants and contracts worth more than \$3 million. Efforts to document and study the world's vanishing biodiversity took scientists and students around the globe. For example, an ongoing project on butterflies of Ecuador has resulted in more than 100 newly described species and many insights on the ecology, spatial and temporal patterns, and evolutionary relationships of butterflies from this mega-diverse country. Assessment of butterflies of Rondônia, Brazil, resulted in nearly 2,000 species of butterflies recorded in just a few square kilometers of Amazonian forest and dozens of new species described in the process. Other efforts include studies of Lepidoptera in Argentina, the Caribbean and Mesoamerica, Florida, Hawaii, Mexico, Panama, Philippines, Taiwan and Vietnam to name but a few.

Public education and outreach are equally critical to the Museum's mission. The signature *Butterfly Rainforest* exhibit drew nearly 1 million visitors, providing a truly transformative experience that engenders a greater appreciation for the natural world. McGuire Center staff also mentored more than 300 Junior Volunteers (ages 12-17) and provided research experiences to dozens of high school students and University of Florida undergraduates. Such meaningful hands-on learning opportunities help inspire and cultivate the next generation of scientists.

Building on the solid foundation assembled over the past 10 years, the McGuire Center is poised to reach even greater heights of preeminence in the decades to come while continuing to expand our understanding of the biological richness of life on Earth.



23 Countries including
the U.S. where Museum
scientists conducted research



OUR IMPACT

RESEARCH LOCATIONS:

Florida—All counties with special attention to Alachua, Broward, Calhoun, Citrus, Columbia, Dixie, Duval, Gadsden, Gilchrist, Glades, Hernando, Highlands, Hillsborough, Jackson, Jefferson, Lafayette, Lake, Lee, Leon, Levy, Liberty, Manatee, Marion, Martin, Miami-Dade, Orange, Palm Beach, Pinellas, Putnam, Sarasota, St. Johns, Sumter, Suwannee, Taylor, Union, Volusia, Wakulla, Washington.

Other States—Alabama, Arizona, Georgia, Hawaii, Idaho, Illinois, Kentucky, Mississippi, Nebraska, New York, North Carolina, South Carolina, South Dakota, Tennessee, Virginia, Washington, West Virginia, Wyoming.

International—Antigua, Australia, Bahamas, Canada, China, Colombia, Cuba, Dutch West Indies, Ecuador, Germany, Guatemala, Honduras, Malaysia, Mexico, Pakistan, Panama, Papua New Guinea, Peru, Philippines, Poland, Saudi Arabia, Thailand.



TEACHING:

ALS 4917 Independent Research, 4 credits
 ALS 6046 Grant Writing, 4 credits
 ANG 6122C Archaeological Ceramics, 3 credits
 ANG 6224 Painted Books of Ancient Mexico, 3 credits
 ANG 6915 Research Projects in Social, Cultural, and Applied Anthropology, 2 credits
 ANG 6971 Masters Research, 20 credits
 ANG 7979 Advanced Research, 78 credits
 ANG 7980 Advanced Research, 14 credits
 ANT 4180L Lab Training in Archaeology, 3 credits
 ANT 4824 Field Session in Archaeology, 6 credits
 ANT 4905 Individual Studies in Anthropology, 8 credits
 ARH 6930 Museum Ethics, 3 credits
 ARH 6946 Museum Practicum, 3 credits
 ARH 6973 Independent Study, 6 credits
 BOT 2710 Practical Plant Taxonomy, 3 credits
 BOT 4911 Independent Research, 1 credit
 BOT 4935/BOT6935/GLY 6932 Palynology—Systematic Pollen and Spore Morphology, 6 credits
 BOT 4935 Research Methods in Plant Evolutionary Biology: From Field to Museum to Molecular Lab, 2 credits
 BOT 4935/BOT 6935/ZOO 4926 Genome Doubling Seminar, 1 credit
 BOT 6726C/ZOO 6927 Principles of Systematic Biology, 4 credits
 BOT 6935 Molecular Systematics, 8 credits
 BOT 6935 Biodiversity and Digitized Data, 2 credits
 BOT 6935/ZOO 6927 Phylogenetic Systematics, 1 credit
 BOT 6935/ZOO 6927 Phylogenomics, 3 credits
 BOT 7979 Advanced Research, 5 credits
 BOT 7980 Advanced Research, 46 credits
 EDG 4930 Informal STEM Practice, 3 credits
 ENY 3163/5164 Invertebrate Field Biology, 3 credits
 ENY 3564/5564 Tropical Entomology, 5 credits
 ENY 4905 Individual Studies in Entomology, 3 credits
 ENY 6934 Insect Pollination Ecology, 1 credit
 ENY 6934 Insect Biogeography, 1 credit
 GLY 3083C Introduction to Marine Science, 3 credits
 GLY 4905 Individual Studies in Geological Sciences, 6 credits
 GLY 4930 Doctoral Research, 3 credits
 GLY 6932/ZOO 6927 Data and Analysis in Natural Sciences, 3 credits
 GLY 6932/ZOO 6927 Taphonomy Seminar, 3 credits
 GLY 6971 Masters Research, 2 credits
 GLY 7979 Advanced Research, 41 credits

GLY 7980 Advanced Research, 8 credits
 IDH 4917 Independent Research, 2 credits
 WIS 4934/6934 Biology of Snakes, 4 credits
 WIS 7979 Advanced Research, 3 credits
 ZOO 4472 Avian Biology, 8 credits
 ZOO 4905 Individual Studies in Zoology, 20 credits
 ZOO 4911 Individual Research, 12 credits
 ZOO 4926/ENY 4905 Spider Biology, 2 credits
 ZOO 4949 Masters Research, 15 credits
 ZOO 5486C Mammalogy, 4 credits
 ZOO 6905 Mesozoic Mammals Seminar, 6 credits
 ZOO 6927 Advanced Invertebrate Biodiversity, 4 credits
 ZOO 6927/PCB 6675C/BOT 6935 Evolutionary Biogeography, 3 credits
 ZOO 6971 Masters Research, 3 credits
 ZOO 7979 Advanced Research, 11 credits
 ZOO 7980 Doctoral Research, 18 credits
 ZOO 6927/4926 Cenozoic Vertebrates of the Neotropics, 2 credits

Graduate Committees Chaired: 107

Graduate Committees Served: 167

Undergraduates Working in Collections: 165

Independent Studies Supervised: 59

SPECIAL ACHIEVEMENTS, FACULTY AND STAFF:

Jonathan Bloch was a Featured Scientist in the PBS series *Your Inner Fish* with Neil Shubin. **Ann Cordell** received the 2014 Florida Preservation Award from the St. Augustine Art Association in recognition of outstanding achievement in the field of archaeology. **Bruce MacFadden** was elected Fellow of The Paleontological Society and promoted to Distinguished Professor. **Susan Milbrath** was selected as 2014 Webster Lecturer by the Archaeological Institute of American (an endowed lecture series). **Doug Soltis** received a University of Florida Postdoc Mentoring Award. **Pam Soltis** served on the International Jury for the START and Wittgenstein Prizes, Vienna. **Neill Wallis** received the 2014 University of Florida Excellence Award for Assistant Professors.



DEVELOPMENT AND MEMBERSHIP

The Florida Museum is extremely fortunate for its engaged family of donors who believe the Museum is an outstanding community resource. Every gift, from a Museum Associates membership to a private collection to a bequest that establishes an endowment, helps further the Museum's mission of understanding, preserving and interpreting biological diversity and cultural heritage to ensure their survival for future generations.

The Museum received its largest gift of the year from the Fraser family of St. Augustine, Florida, more than 97,000 artifacts recovered during archaeological excavations over the last 30 years at the Fountain of Youth Archaeological Park. The artifacts and related research information played an integral role in the Museum's development of its newest exhibition, *First Colony: Our Spanish Origins*, currently on display at Government House in St. Augustine.

The much-anticipated renovation of the *Charles H. and Wanda N. Denny Central Gallery* in Powell Hall was completed thanks to generous support from the Charles H. Denny III Charitable Trust, the 1923 Fund and from Jon and Beverly Thompson of Fort Myers. The new gallery space will inspire visitors with the wonders of the natural world and prepare them for an exciting journey as they venture farther into the Museum.

Museum membership achieved a new record with more than 1,300 active members. The Museum Associates Board hosted the signature gala, *Passport to Discovery: Raiders of the Lost Ark*, for a sold-out crowd. This year marked the completion of the three-year campaign, *Passport to Discovery*, to raise funds to develop and build an enhanced, permanent *Discovery Room* that fosters critical thinking, collaboration and creativity. The newly designed *Discovery Room* will create a lasting impact on children and the adults who support their explorations.

The Museum is thankful to all of its friends and supporters who give so passionately of their time, talent and treasure to ensure the Florida Museum's future. For more information about giving opportunities to support the Florida Museum, please contact **Marie Emerson, Development Director, 352-273-2087**.



1,300
active members

5 centuries of natural history
from the wing to the bone

Totus, tipos & strange
The First Room of Natural History

9,409
Public programs attendees



EXHIBITS AND PUBLIC PROGRAMS

The exhibits and programs take Museum research and collections to the public. Collaborations across the Museum and with outside organizations resulted in several highlights last year.

Celebrating our country's First Colony

Capitalizing on 50 years of archaeological research in Spanish Florida, the Museum opened the new *First Colony: Our Spanish Origins* exhibit in St. Augustine. This highly interactive exhibit reveals the first colony through archaeology, history and stories of people who lived there. The Museum will host *First Colony* beginning in fall 2015 before it begins a national tour.

Discovery Room for children and families

Based on the *Discovery Room*'s popularity, the Museum spent the year planning and designing a new permanent area with Lee Skolnick Architects + Design and Museum and community stakeholders. The resulting vision is guaranteed to inspire the Museum's youngest visitors about natural history. With fundraising underway, construction is expected to begin in summer 2015.

Snakes, Surfers and Dogs invade the Museum

Featured exhibits slithered in with *Titanoboa: Monster Snake*, a collaboration with the Smithsonian Institution; hit the beach with *Surfing Florida: A Photographic History* from Florida Atlantic University and the Museum-produced *Surf Science: Waves and Wildlife*, and ended the year with *Wolf to Woof: the Story of Dogs*.

Canoes exhibit launched!

Joining the Museum's roster of national touring exhibits, *Dugout Canoes: Paddling through the Americas* left for its first stop at the Elliott Museum in Stuart, Florida, while *Megalodon: Largest Shark that Ever Lived* cruised through Illinois, Ohio, Texas and Jacksonville, Florida.

Featuring Research

Through a partnership with UF's Office of Research and IFAS Department of Agricultural Education and Communication, *Explore Research* multimedia exhibits and resources showcase UF research and reach vast public audiences. As of May 2014, there were more than 54,000 *YouTube* views and 310,000 *TeacherTube* views on the Museum's channels, and more than 1,800 classrooms connected to the *TeacherTube* account.

Creative B "B" movies

The Museum's panel of scientists, film experts and artists explored the art and science in *King Kong*, *Harry & the Hendersons*, *Creature from the Black Lagoon* and *Trail of the Skunk Ape* as part of the UF Creative B summer program.

35th Collectors Day

The Museum's longest-running program celebrated a milestone and also demonstrated collections truly are for everyone with the age of collectors ranging from 4–80 years old. More than 1,300 visitors attended the event featuring nearly 100 collections.

Discovering Math in the Museum

More than 400 kindergarten through third-grade children, nearly all from Title 1 schools, explored math in Museum exhibits. Students majoring in mathematics and participating in the UF Noyce Scholars Program developed the content for this innovative field trip option. The Museum provided bus transportation funding and entrance to the *Butterfly Rainforest* for the pilot project.

Portal to the Public

The Museum joined the national Portal to the Public network that focuses on bringing scientists and public audiences together to promote appreciation and understanding of current scientific research and its application.

Volunteering in the McGuire Collections

Junior Volunteers contributed more than 1,100 hours sorting and labeling butterflies and moths. While assisting in Lepidoptera curation, these teenagers developed many skills in addition to an appreciation for science and the role of collections.

141,059

Visitors to Museum
traveling exhibits
at other venues



PEER-REVIEWED PUBLICATIONS

Allen, J.M., C.O. Worman, J.E. Light, and D.L. Reed. 2013. Parasitic lice help to fill in the gaps of early Hominin history. pp. 161–186. *In*: J. Brinkworth and E. Pechenkina, eds. *Primates, Pathogens and Evolution*. Springer Press.

Amborella Genome Project [authors: Chamala, S., A. Chanderbali, J. Der, T. Lan, B. Walts, V. Albert, C. dePamphilis, J. Leebens-Mack, S. Rounsley, S. Schuster, R. Wing, N. Xiao, R. Moore, P.S. Soltis, D.E. Soltis, W.B. Barbazuk ... et al.]. 2013. The *Amborella* genome and the evolution of flowering plants. *Science* 342:1241089. DOI:10.1126/science.1241089.

Anker, A. and G. Paulay. 2013. A remarkable new crab-like, deep-water hermit crab (Crustacea, Decapoda, Paguridae) from French Polynesia, with discussion of carcinization in the Anomura. *Zootaxa* 3722:283–300.

Asami, R., Y. Iryu, K. Hanawa, T. Miwa, P. Holden, R. Shinjo, and G. Paulay. 2013. MIS 7 interglacial sea surface temperature and salinity reconstructions from a southwestern subtropical Pacific coral. *Quaternary Research* 80:575–585.

Baczynski, A.A., F.A. McInerney, S.L. Wing, M.J. Krause, J.I. Bloch, D.M. Boyer, R. Secord, P.E. Morse, and H.C. Fricke. 2013. Chemostratigraphic implications of spatial variation in the Paleocene-Eocene Thermal Maximum carbon isotope excursion, SE Bighorn Basin, Wyoming. *Geochemistry, Geophysics, Geosystems* 14:4133–4152.

Bland, K.J., A.J.W. Hendy, P.J. Kamp, and C.J. Nelson. 2013. Macrofossil biofacies in the late Neogene of central Hawke's Bay: Applications to palaeogeography. *New Zealand Journal of Geology and Geophysics* 56(4):200–222.

Bowen, B.W., K. Shanker, N. Yasuda, M.C.D. Malay, S. von der Heyden, G. Paulay, L.A. Rocha, K.A. Selkoe, P.H. Barber, S.T. Williams, H.A. Lessios, E.D. Crandall, G. Bernardi, C.P. Meyer, K.E. Carpenter, and R.J. Toonen. 2014. Phylogeography unplugged: Comparative geographic surveys in the genomic era. *Bulletin of Marine Science* 90:13–46.

Boyer, D.M., G.S. Yapuncich, S.G.B. Chester, J.I. Bloch, and M. Godinot. 2013. Hands of early primates. *Yearbook of Physical Anthropology* 57:33–78.

Boyer, D.M., J.T. Gladman, and J.I. Bloch. 2013. Evolution and allometry of calcaneal elongation in living and extinct primates. *PLOS ONE* 8(7):e67792.

Bracken-Grissom, H.D., S. Ah Yong, J.W. Breinholt, R. Wilkinson, Z. Yang, R. Feldmann, C. Schweitzer, F. Palero, T.-Y. Chan, K.H. Chu, D.L. Felder, R. Robles, D. Kim, M. Tsang, J. Martin, and K.A. Crandall. 2014. The emergence of the lobsters: Phylogenetic relationships, morphological evolution and divergence time comparisons of a fossil rich group (Achelata, Astacidea, Glypheidea, Polychelida). *Systematic Biology* DOI:10.1093/sysbio/syu008.

Breinholt, J.W. and A.Y. Kawahara. 2013. Phylotranscriptomics: Saturated third codon positions radically influence the estimation of trees based on next-gen data. *Genome Biology and Evolution* 5(11):2082–2092.

Brower, A.V.Z., K.R. Willmott, K.L. Silva-Brandão, I.J. Garzón-Orduña, and A.V.L. Freitas. 2014. Phylogenetic relationships of ithomiine butterflies (Lepidoptera: Nymphalidae: Danainae) as implied by combined morphological and molecular data. *Systematics and Biodiversity* 12(2):1–15. DOI:10.1080/14772000.2014.899650.

Burgess, G.H., B. Bruce, G. Cailliet, K. Goldman, R. Grubbs, C. Lowe, M. MacNeil, H. Mollet, K. Weng, and J. O'Sullivan. 2014. A re-evaluation of the size of the White shark (*Carcharodon carcharias*) population off California, USA. *PLOS ONE* 9(6):e98078. DOI:10.1371/journal.pone.0098078.

Chakrabarty, P., M. Warren, L.M. Page, and C.C. Baldwin. 2013. GenSeq: An updated nomenclature and ranking for genetic sequences from type and non-type sources. *Zookeys* 346:29–41.

Chamala, S., A. Chanderbali, J. Der, T. Lan, B. Walts, V. Albert, C. dePamphilis, J. Leebens-Mack, S. Rounsley, S. Schuster, R. Wing, N. Xiao, R. Moore, P.S. Soltis, D.E. Soltis, and W.B. Barbazuk. 2013. Assembly and validation of a complete nuclear genome sequence in a non-model plant species. *Science* 342:1516–1517.

Chazot, N., K.R. Willmott, P.G.S. Endara, A. Toporov, R. Hill, C. Jiggins, and M. Elias. 2013. Mutualistic mimicry and filtering by altitude shape the structure of Andean butterfly communities. *American Naturalist* 183(1):26–39. DOI:10.1086/674100.

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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. 2014. Fifty-fifth supplement to the American Ornithologists' Union check-list of North American birds. *Auk* 131(4):CSi–CSxv. DOI:http://dx.doi.org/10.1642/AUK-14-124.1.

Chester, S. and J.I. Bloch. 2013. Systematics of Paleogene Micromomyidae (Euarchonta, Primates) from North America. *Journal of Human Evolution* 65:109–142.

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Connor, L.L., K.L. Krysko, and C. Knott. 2013. Geographic distribution: *Leiocephalus carinatus* (Northern Curly-tailed lizard). *Herpetological Review* 44:474–475.

Connor, L.L., K.L. Krysko, T. Bourdreau, J.S. Roselius, and R.A. Coon. 2013. New county records for the Northern Curly-tailed lizard, *Leiocephalus carinatus* Gray 1827 (Tropiduridae), and African Rainbow lizard, *Agama agama* complex (Agamidae), in Florida. *IRCF Reptiles & Amphibians* 20:149–151.

Cooke, R.G., D.W. Steadman, M. Jiménez, and I.I. Isaza-Aizpurúa. 2013. Pre-Columbian exploitation of birds along the Pacific littoral of Panama. pp. 479–530. *In*: C. Götz and K.F. Emery, eds. *Archaeology of Mesoamerican Animals*. Archaeobiology Series, Oxbow Press, David Brown Book Co., Oakville, CT.

Covell, C.V. Jr. 2013. A bilateral gynandromorph of *Parasa chloris* (Herrich-Schäffer) (Limacodidae) from Kentucky. *News of the Lepidopterists' Society* 55(4):173.

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Crowl, A.A., E. Mavrodiev, G. Mansion, R. Haberle, A. Pistarino, G. Kamari, D. Phitos, T. Borsch, N. Cellinese. 2014. Phylogeny of Campanuloideae (Campanulaceae) with emphasis on the utility of pentatricopeptide repeat (PPR) genes. *PLOS ONE* 9:e94199.

Cunningham-Smith, P., A.F. Chase, and D.Z. Chase. 2014. Fish from afar: Marine resource use at Caracol Belize. *Research Reports in Belizean Archaeology* 11:43–53.

Curtis, T., C. McCandless, J. Carlson, G. Skomal, N. Kohler, L. Natanson, G.H. Burgess, J. Hoey, and H. Pratt. 2014. Seasonal distribution and historic trends in abundance of White sharks, *Carcharodon carcharias*, in the western North Atlantic Ocean. *PLOS ONE* 9(6):e99240. DOI:10.1371/journal.pone.0099240.

De la Maza, R.G. and A.D. Warren. 2014. *Cyllopsis nelsoni* (Godman & Salvin 1881) (Nymphalidae-Satyrinae) nuevo registro para Chiapas y México. *Revista de la Sociedad Mexicana de Lepidopterología* N.S. 1(2):2–4.

De Prins, J., W. De Prins, E.D. Coninck, A.Y. Kawahara, M.A. Milton, and P.D.N. Hebert. 2013. Taxonomic history and invasion biology of two *Phyllonorycter* leaf miners (Lepidoptera: Gracillariidae). *Zootaxa* 3709(4):341–362.

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Deagan, K. 2014. Early alliances: History and archaeology in Florida. pp. 1–10. *In*: R.K. Wentz, ed. *Searching Sand and Surf: The Origins of Archaeology in Florida*. Florida Historical Society, Cocoa, FL.

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Edwards, J.R., M.R. Rochford, F.J. Mazzotti, and K.L. Krysko. 2014. New county record for the Veiled chameleon (*Chamaeleo calyptratus* Duméril and Bibron 1851), in Broward County, Florida, with notes on intentional introductions of chameleons in southern Florida. *IRCF Reptiles & Amphibians* 21:83–85.

Emerson, J.A., H.S. Walden, R.K. Peters, L.L. Farina, D.V. Fredholm, Y. Qvarnstrom, M. Xayavong, H. Bishop, J.D. Slapcinsky, A. McIntosh, and J.F. Wellehan Jr. 2013. Eosinophilic meningoencephalomyelitis in an orangutan (*Pongo pygmaeus*) caused by *Angiostrongylus cantonensis*. *Veterinary Quarterly* 33(4):191–194.

Emery, K.F. 2013. Making the transition from zooarchaeological remains to animals in a human context, pp. 607–630. In: C. Götz and K.F. Emery, eds. *Archaeology of Mesoamerican Animals*. Lockwood Press.

Emery, K.F. and E.K. Thornton. 2013. Tracking climate change in the ancient Maya world through zooarchaeological habitat analysis, pp. 301–332. In: G. Iannone, ed. *The Great Maya Droughts in Cultural Context*. University Press of Colorado.

Emery, K.F., E.K. Thornton, N. Cannarozzi, S. Houston, and H. Escobedo. 2013. Ancient animals of the southern Maya highlands: Zooarchaeology of Kaminaljuyu, pp. 381–416. In: C. Götz and K.F. Emery, eds. *Archaeology of Mesoamerican Animals*. Lockwood Press.

Endara, L., A. Soto-Centeno, T.A. Lott, and P.S. Soltis. 2014. Preserving biodiversity for long-term research: The Genetic Resources Repository of the Florida Museum of Natural History, pp. 49–55. In: W.L. Applequist and L.M. Campbell, eds. *Banking for the 21st Century, Proceedings of the U.S. Workshop on DNA Banking*. The William Brown Center at the Missouri Botanical Garden, St. Louis.

Fay-Wei L., J.C. Villarreal, S. Kelly, C.J. Rothfels, M. Melkonian, E. Frangedakis, M. Ruhsam, E.M. Sigel, J.P. Der, D.O. Burge, A. Larsson, T. Chen, E. Carpenter, Y. Zhang, Z. Tian, L. Chen, Z. Yan, Y. Zhu, X. Sun, J. Wang, D.W. Stevenson, A.J. Shaw, M.K. Deyholos, D.E. Soltis, S.W. Graham, M.D. Windham, J.A. Langdale, G. Ka-Shu Wong, S. Mathews, and K.M. Pryer. 2014. Horizontal gene transfer of a chimeric photoreceptor, neochrome, from hornworts to ferns. *Proceedings National Academy of Sciences U.S.A.* DOI:10.1073/pnas.1319929111.

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Granatosky, M.C. and K.L. Krysko. 2013. The Brown anole, *Anolis sagrei* Duméril and Bibron 1837 (Dactyloidae), state record and introduction pathway. *IRCF Reptiles & Amphibians* 20:190–191.

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Graze, R.M., L.M. McIntyre, A.M. Morse, B.M. Boyd, S.V. Nuzhdin, and M.L. Wayne. 2014. What the X has to do with it: Differences in regulatory variability between the sexes in *Drosophila simulans*. *Genome Biology and Evolution*. DOI:10.1093/gbe/evu060.

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Helfman, G. and G.H. Burgess. 2014. *Sharks: The Animal Answer Guide*. Johns Hopkins University Press, Baltimore, MD.

Hernández, L.C., L.S. Fuentes, G.E. Fajardo, and D.L. Matthews. 2014. A new species of *Oidaematophorus* (Lepidoptera: Pterophoridae) from Chingaza National Natural Park in Colombia. *Tropical Lepidoptera Research* 24(1):15–21.

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SOME OF OUR FAVORITES...

Front Cover, left to right top to bottom

Cyaniris antiochena, Middle East

Creon Skipper, *Creonpyge creon*, South America

Eurybia lycisca, Central America

Great Tiger Moth, *Arctia caja*, Europe

Yanguna cometes, South America

Ventral view of *Callicore lyca*, South America

Photos by Andrei Sourakov

Page 4

Florida Museum Director Douglas Jones displays several Lepidoptera species in the *Butterfly Rainforest* exhibit. Photo by Kristen Grace

Page 5

McGuire Center Collection Coordinator Andrei Sourakov discusses research and career opportunities with a group of college students at the McGuire Center. Photo by Kristen Grace

Page 6

The Museum hired new Mammalogy Collection Manager Verity Mathis in May. Photo by Kristen Grace

Page 7

This Late Swift Creek Complicated Stamped vessel from the Shelly Mound near Tallahassee is part of the Museum's Florida Archaeology Collection. Photo by Kristen Grace

Page 8

This excavation image shows a corner of the foundation of the 1677 coquina church at Mission Nombre de Dios and a later tabby addition. Photo by Gifford Waters

Page 9

Museum researchers rearticulated a 17-foot-7-inch Burmese python from the Florida Everglades this year. Photo by Kristen Grace

Page 10

Ichthyology Collection Manager Robert Robins retrieves specimens to be digitized as part of the iDigBio project. Photo by Kristen Grace

Page 11

These jaguar pelts are part of the Museum's Mammalogy Collection. Photo by Kristen Grace

Page 12

This mid-20th century field research notebook is part of the Museum's Ornithology Collection library. Photo by Kristen Grace

Page 13

This image shows a virtual representation of the brain of *Notharctus tenebrosus*, a fossil primate from the Eocene Bridger Basin in Wyoming, inside a translucent rendering of its cranium. Image by Arianna Harrington

Graduate student Sarah Allen and Paleobotany Biological Scientist Terry Lott excavate 48-million-year-old leaves from the Bridger Formation in southwestern Wyoming. Photo by Steven Manchester

Page 14

Schaus' swallowtail Butterfly caterpillar, *Heraclides aristodemus ponceanus*. Photo by Kristen Grace

Museum members watch McGuire Center Director Jaret Daniels release tagged Monarch butterflies during the *Tastes, Tunes & Treasures* event. Photo by Kristen Grace

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East African sunset moth, *Chrysiridia croesus*. Photo by Kristen Grace

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Ornithology Curator Dave Steadman discusses a termite mound with students in his *Island Biogeography* class in a native palm forest on Eleuthera Island in the Bahamas. Photo courtesy of Janet Franklin

Page 17

Invertebrate Paleontology postdoctoral researchers Adiël Klompmaker and Troy Dexter are pictured with millions of Pliocene fossils from the Tamiami Formation at the SMR Aggregates Inc. quarry wash plant in Sarasota, Florida. Photo by Roger Portell

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The Charles & Wanda Denny Gallery was recently renovated to feature canvas cloud formations, video screens, new furniture, window decals of Sand Hill Cranes and new lighting. Photo by Kristen Grace

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Kawahara Lab Coordinator Geena Hill shows a Museum member Saturniid moths during the *Tastes, Tunes & Treasures* event. Photo by Kristen Grace

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Florida Museum graduate student Alexis Rojas shows Museum visitors malacology specimens during the annual *Can You Dig It?* geology public program. Photo by Katina Prokos

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Children use a multimedia interactive display that simulates an archaeological dig in the Museum's *First Colony: Our Spanish Origins* exhibition in St. Augustine. Photo by Kristen Grace

Page 23

The Florida Museum honored Barbara Ornstein and Robert Tarnuzzer as its 2014 volunteers of the year. Photos by Kristen Grace

Page 26

Caribbean Archaeology Curator Bill Keegan and team members help excavate a 1,700-year-old Amerindian site in January 2014 under Main Street in St. Thomas to recover artifacts as part of an emergency mitigation before the road was repaved. Photo courtesy of David Hayes

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Common green birdwing, *Ornithoptera priamus*. Photo by Kristen Grace

Back Cover, left to right top to bottom

Prepona deiphile, South America

Callicore excelsior, South America

Orange-banded Daggerwing, *Marpesia marcella*, South America

Yellow Pansy, *Junonia hierta*, Old World Tropics

Bia actorion, South America

Eurybia molochina, South America

Photos by Andrei Sourakov

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