



Florida Museum of Natural History

Annual Report 2015-2016



From the Director

“On the whole we have here in Florida, here in Gainesville, the opportunity, waiting at our door, to build up one of the greatest museums the world has known.”

With these words in our first annual report (1915), Founding Museum Director Thompson Van Hyning shared his outlook with UF President A.A. Murphree. Van Hyning continued, *“I would recommend that there be introduced in the next Legislature a bill to establish a State Museum under the auspices of the State University, at Gainesville; that the act of establishing the same shall create a natural history and archaeological survey of the State.”* Two years later in May 1917, while World War I raged in Europe, the Florida Legislature acted upon this bill and the Florida State Museum was created.

Now after a century we find ourselves looking ahead to 2017 and our centennial celebration as Florida’s state museum of natural history. Many exciting events are planned to mark this historic occasion. We will host a Gala Weekend in April; celebrate our 100th anniversary on May 30; dedicate our new *Beverly and Jon Thompson Discovery Zone* geared toward our youngest visitors in July; open a special centennial exhibition – *Rare Beautiful & Fascinating: 100 Years @FloridaMuseum*; award another Archie Carr Medal; host special events throughout the year; and publish a book with the University Press of Florida highlighting some of the Museum’s most significant objects and outlining its history. However, in anticipation of these events, it might be well to pause and reflect on Van Hyning’s century-old dream of creating a state museum which is also one of the great museums of the world. Have we lived up to his expectations and created a great museum here in Gainesville?

I truly believe the answer is yes. By 1916 Van Hyning reported 50,000 cataloged specimens, a staff of only one permanent employee (himself) and exhibits open to the public each afternoon. He included an urgent request for additional funding for an assistant, exhibition cases, storage cabinets, equipment, supplies and travel expenses. While I empathize with the need for funding to cover many of the same items today, I think it is instructive to consider our Museum statistics for FY 2015-2016 to gauge the growth in our institution over the past century.

Last year’s museum visitation was 208,776. We described 195 species new to science, cataloged 383,962 specimens and artifacts and permanently cared for another 40 million, and made 554 loans involving more than 37,000 specimens. Our faculty chaired 106 graduate committees, served on another 168, taught 36 UF courses to 670 students, published 187 peer-reviewed books and scientific articles, and successfully competed for \$8.3 million in new grant funds. Our annual budget was nearly \$28 million and we employed about 320 full- and part-time personnel. We are considered **one of the top three university-based natural history museums in the nation.**

So, I feel we have become a great museum over our first century, and that Dr. Van Hyning would be pleased with our progress. I hope you share my opinion as well as my optimism for the next 100 years!

Sincerely,



Douglas S. Jones, Director





Florida Museum Special Achievements, Faculty and Staff

Dr. **Kathleen A. Deagan** was elected a member of the American Academy of Arts and Sciences.

Dr. **Kathleen A. Deagan** and Dr. **Jerald T. Milanich** were honored with 2015 lifetime achievement awards from the Southeastern Archaeological Conference.

Dr. **Douglas S. Jones** was named Chair of the Board for the American Alliance of Museums.

Dr. **William Marquardt** received an Exceptional Leadership Award from the Florida Association of Museums.

Dr. **William Marquardt** received the Southeastern Archaeological Conference Patty Jo Watson Award for best publication in the field of southeastern U.S. archaeology.

Dr. **Jacqueline Miller** was elected as an honorary member of the Entomological Society of America.

Dr. **Douglas Soltis** and Dr. **Pam Soltis** were named to the Thomas Reuters 2015 Highly Cited Researchers list, representing the top 1 percent in their field.

Dr. **Douglas Soltis** and Dr. **Pam Soltis** received the 2016 Darwin-Wallace Medal from the Linnean Society of London, considered one of the top international awards given to researchers studying evolutionary biology.

Dr. **Pam Soltis** was named Director of the University of Florida Biodiversity Initiative.

Dr. **Pam Soltis** was elected to membership in the National Academy of Sciences.



FY 2015-2016 Our Impact by the Numbers

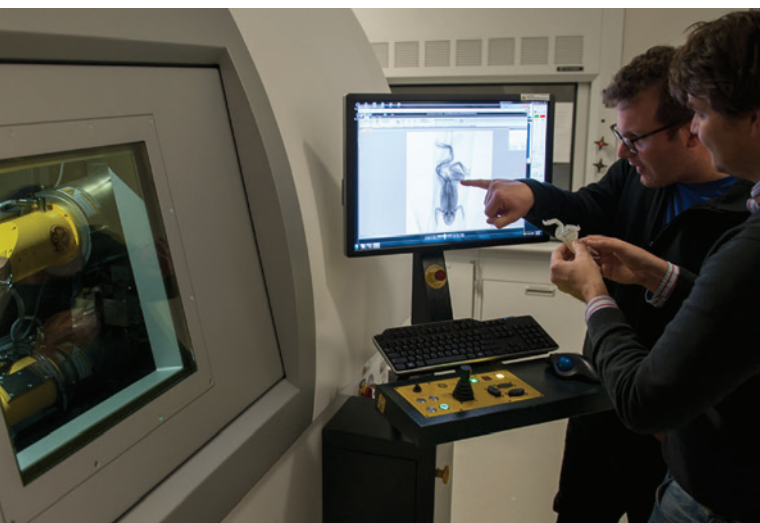
Collections and Research

187	Peer-reviewed publications
1,125	Scientific and other visitors to collections
554	Collection loans of 37,620 specimens and artifacts
40+	Million total specimens
60	Grants and contracts worth \$8.3 million
187	Undergraduates and postdoctoral fellows working in collections
24	Countries including the U.S. where Museum scientists conducted research

12	States including Florida where Museum scientists conducted research
13,777	Accessions to collections
383,962	New specimens and artifacts cataloged

Staff and Faculty Teaching

36	Courses taught by Museum faculty
106	Graduate committees chaired
168	Graduate committees served
47	Independent Studies supervised



Opposite page: Clockwise from top left, Kathleen Deagan, Jerald Milanich, Douglas Jones, William Marquardt, Jacqueline Miller, Douglas Soltis and Pam Soltis. ©Florida Museum photos by Kristen Grace, Eric Zamora and Mary Warrick **Top:** Rob Guralnick, left, and Akito Kawahara, pictured in the *Butterfly Rainforest*, received an NSF grant to digitize Lepidoptera Collections. **Above:** David Blackburn, left, and postdoctoral researcher Ed Stanley capture a 3-D image of a frog specimen using UF's new micro-CT scanner. ©Florida Museum photos by Kristen Grace

Collections and Research

The Department of Natural History had an outstanding year with 27 faculty overseeing about \$65 million in total external grant support for research and collection activities, including 36 new and 24 continuing grants totaling \$8.3 million. This per-capita funding rate is high, even for a research-intensive university like the University of Florida. Faculty and staff published 187 peer-reviewed books and journal articles, chaired 106 graduate committees, and served on the graduate committees of another 168 students. In addition, 160 undergraduates and 27 postdoctoral fellows were trained in Museum labs and collections. Museum faculty and staff taught more than 600 students in 36 courses through the departments of Anthropology, Biology, Entomology & Nematology, Geological Sciences, Wildlife Ecology & Conservation and others. They also oversaw independent studies and research topics for 47 students totaling more than 600 credit hours.

Museum collections grew by 13,777 accessions totaling more than 380,000 new specimens and artifacts. Museum researchers hosted 1,125 scientific visitors and processed 554 loans of more than 37,000 specimens. Most biological collections have transitioned to the new Specify database system, which adds many new features for virtual visitors to the collections. We hope to have all biological collections using Specify by the end of 2017. As part of a continuing effort to harness the tremendous wealth of information associated with Museum specimens, the McGuire Center for Lepidoptera and Biodiversity received funding from the National Science Foundation to help advance the digitization efforts of butterflies and moths in North American collections. The resulting Lepidoptera of North America Network project, called LepNet, is a multi-institutional collaboration of 29 collections from 26 states, and more than 20 million specimens.

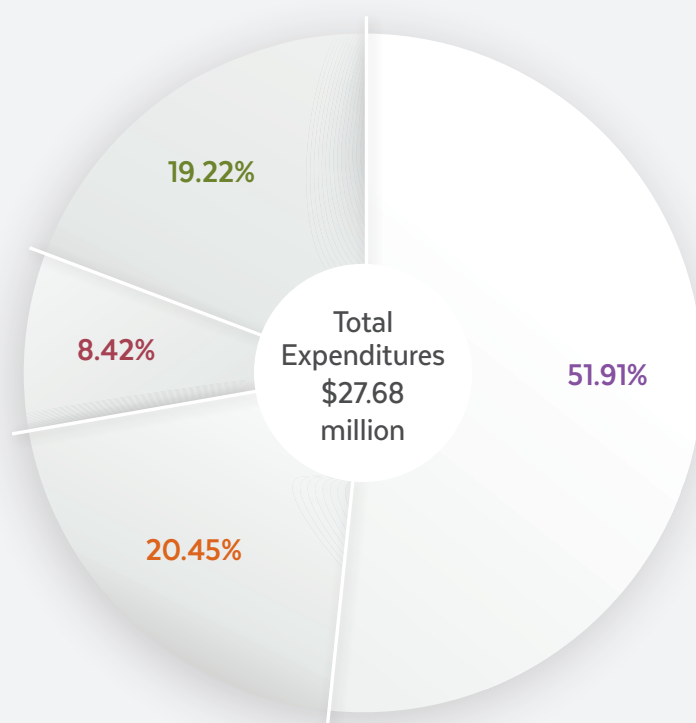
The Museum is one of only 10 global recipients for a new philanthropic investment by the Disney Conservation Fund to help conserve threatened wildlife and inspire a lifelong love of nature in young people. The new

FY 2015-2016 Financials

Expenditures

Salaries and benefits	\$14.37 million	51.91%
Operating	\$5.66 million	20.45%
Overhead/other fees	\$2.33 million	8.42%
Transfers for future programming	\$5.32 million	19.22%

Total \$27.68 million



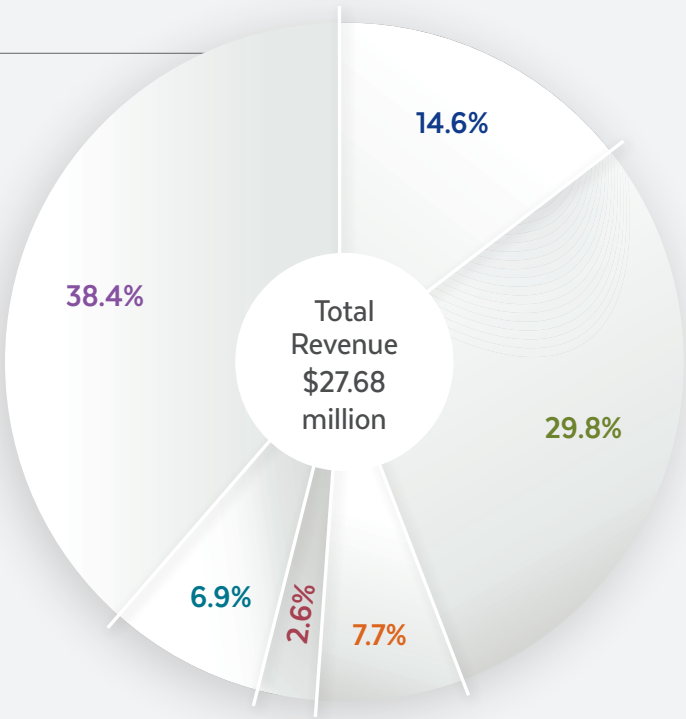
decade-long initiative, called “Reverse the Decline, Increase the Time,” is focused on the recovery of 10 critically at-risk organism groups and reconnecting children with the natural world to inspire them to care for the planet. The McGuire Center is spearheading efforts to help reverse the decline of more than 42 butterfly species in Florida and California.

Last year we welcomed a new curator of herpetology, David Blackburn, who hit the ground running. This year, we identified a new director for the Florida Program for Shark Research, Gavin Naylor, who will be joining the Florida Museum in July 2017. He comes to us from the Medical University, South Carolina in Charleston. His research focuses on building out the Tree of Life for sharks, skates and rays.

This year also saw the beginning of the new UF Biodiversity Initiative. Nine years in the making, Museum curators were the origin of this new UF-wide endeavor. Curators wanted to find partners at UF who could help them realize new breadth to our work on biodiversity. Specifically, Museum researchers sought partnerships with geographers, educators, policy experts and others to expand their work. This vehicle for collaboration was finally realized as part of UF’s Preeminence Initiative. The University initially funded five preeminence hires in biodiversity: two in the Museum, two in the Institute of Food and Agricultural Sciences and one in the Department of Biology. With the Museum’s application to have the Biodiversity Initiative formally recognized as a UF-wide institute, the University provided start-up funds for the first three years of the institute and 2,000 square feet of office and conference room space alongside the UF Informatics Institute. The Biodiversity Initiative now includes more than 100 members from 13 UF departments, and will continue to thrive and grow thanks to a \$1 million gift from Ken and Linda McGurn. It has awarded four graduate assistantships, sponsored workshops and seminars, and will soon announce faculty seed grants. The UF Foundation has also made Biodiversity Initiative funding a top priority for the upcoming capital campaign. Many good things await in the coming year.



Top: The Museum offered its first Lepidoptera summer camp for students in grades 5-8, providing experiences in field collection, specimen preparation and conservation of butterfly and moth species. ©Florida Museum photo by Jeff Gage **Above:** Outreach coordinator Jonnie Dietz, right, engages with visitors during a Pop-up Museum event. ©Florida Museum photo by Kristen Grace



Revenue

Gifts	\$4.03 million	14.6%
Grants and contracts	\$8.26 million	29.8%
Earned income	\$2.12 million	7.7%
Endowment income	\$0.73 million	2.6%
Other UF income	\$1.92 million	6.9%
UF/State allocation	\$10.62 million	38.4%
Total	\$27.68 million	

Exhibits and Public Programs

The Exhibits and Public Programs Division had a successful year with a number of well-attended events, including new initiatives targeting millennials, as well as high-performing incoming and outgoing traveling exhibits, and new outreach and partnership opportunities.

The featured exhibition line-up began with the hugely popular A T. Rex *Named Sue* from Chicago’s Field Museum, followed by the Museum’s *First Colony: Our Spanish Origins*, showcasing Museum research on the nation’s first enduring European colony of St. Augustine, established in 1565. The year ended with *Wicked Plants*, from the North Carolina Arboretum, a unique exhibition about the “evildoers” of the plant world. The Museum also presented the second exhibit in its climate change series, *Our Changing Climate: Sea Level Rise*, which explored current and future impacts on Florida and how scientists and communities are projecting and planning for change. Additionally, the year delivered an exciting final design and contracts to begin construction on the *Discovery Zone*, a new permanent exhibition for young children and families.








The Museum hosted a sold-out *Museum Hack* event targeted toward millennial visitors this year. ©Florida Museum photo by Kristen Grace

Two Museum exhibitions traveled to other venues, including *Dugout Canoes: Paddling through the Americas* to Oklahoma and St. Augustine, while *Megalodon: Largest Shark that Ever Lived* cruised through Santa Barbara, Nashville and Ontario.

The new Pop-up Museum initiative adventured to unexpected locations and audiences, popping up throughout North Central Florida with interactive on-site experiences. These included collecting moths at night, building native pollinator houses, investigating sea level rise and exploring the “tree of life” of flowering plants. The Museum also ventured into new territory by hosting New York’s fabulous *Museum Hack* group, which took over the Museum for a night of science programming and fun to more deeply engage young adults. Thanks to funding from the Museum Associates and a partnership with Alachua County Public Schools, more than 1,800 fourth-graders discovered Florida’s multicultural history during *First Colony Days*, which included teacher training, classroom activities and field trips to the *First Colony* exhibit. The Museum provided scholarships for children in the Alachua Multi-County Migrant Education Program to attend summer camps. The program transported kids to the Museum from Alachua, Citrus, Clay, Gilchrist, Levy and Union counties. About 20 percent of this summer’s more than 100 Junior Volunteers, ages 12 to 17, were multilingual, speaking Arabic, Chinese, French, Hindi, Korean, Portuguese and Spanish. The students used their language and science skills to interact with visitors or work as camp or collections assistants.

FY 2015-2016 Our Impact by the Numbers (continued)

Attendance and Outreach

208,776	Annual visitation	1,390	Pop-Up Museum visitors
9,957	School program participants	249,592	Visitors to Museum traveling exhibits at other venues
1,183	K-6 camps and classes participants	7.8	Million Web page views
48	Teacher workshop attendees	2.39	Million Web page visits
11,846	Public Programs attendees	204,699	Pinterest followers 
31,088	Hours donated by 553 volunteers	21,221	Facebook likes 
4,945	News articles published with a potential viewership of 6.7 billion	6,085	Twitter followers 
7,917	School and Public Programs outreach participants	841	YouTube subscribers 
		1,734	Instagram followers 

Ahmed, M.Z., E.V. Araujo-Jnr, J.J. Welch, and A.Y. Kawahara. 2015. *Wolbachia* in Lepidoptera: Geographic structure in infection frequency. *Frontiers in Zoology* 12:16. DOI:10.1186/s12983-015-0107-z.

Ahmed, M.Z., J.W. Breinholt, and A.Y. Kawahara. 2016. Evidence for horizontal transmission of *Wolbachia* with partial evidence for lateral gene transfer to lepidopteran hosts. *BMC Evolutionary Biology* 16:118.

Ahmed, M.Z., D. Plotkin, B.-L. Qiu, and A.Y. Kawahara. 2015. Postdocs in science: A comparison between China and the US. *Bioscience* 65(11):1088-1095. DOI:10.1093/biosci/biv125.

Allen, J.M., J.G. Burleigh, J.E. Light, and D.L. Reed. 2016. Effects of 16S rDNA sampling on estimates of endosymbiont lineages in sucking lice. *PeerJ* 3:e1815.

Baczynski, A.A., F.A. McInerney, S.L. Wing, M.J. Kraus, P.E. Morse, J.I. Bloch, A.H. Chung, and K.H. Freeman. 2016. Distortion of carbon isotope excursion in bulk soil organic matter during the Paleocene-Eocene thermal maximum. *Geological Society of America Bulletin* B31389-1. DOI:10.1130/B31389.1.

Basset, Y., H. Barrios, S. Segar, R.B. Srygley, A. Aiello, A.D. Warren, F. Delgado, J. Coronado, J. Lezcano, S. Arizala, M. Rivera, F. Perez, R. Bobadilla, Y. Lopez, and J. Ramirez. 2015. The butterflies of Barro Colorado Island, Panama: Local extinction since the 1930s. *PLOS ONE* 10(8):e0136623. DOI:10.1371/journal.pone.0136623.

Blackburn, D.C., E. Greenbaum, M. Fabrezi, D. Meirte, A.J. Plumptre, and E.L. Stanley. 2016. The distribution of the Bururi Long-fingered Frog (*Cardioglossa cyaneospila*, family Arthroleptidae), a poorly known Albertine Rift endemic. *Zootaxa* 4170:355-364.

Blackburn, D.C., E.M. Roberts, and N.J. Stevens. 2015. The earliest record of the endemic African frog family Ptychadenidae from the Oligocene Nsungwe Formation of Tanzania. *Journal of Vertebrate Paleontology* 35:e907174.

Bloch, J.I., S.G. Chester, and M.T. Silcox. 2016. Cranial anatomy of Paleogene Micromomyidae and implications for early primate evolution. *Journal of Human Evolution* 96:58-81. DOI:10.1016/j.jhevol.2016.04.001.

Bloch, J.I., E.D. Woodruff, A.R. Wood, A.F. Rincon, A.R. Harrington, G.S. Morgan, D.A. Foster, C. Montes, C.A. Jaramillo, N.A. Jud, D.S. Jones, and B.J. MacFadden. 2016. First North American fossil monkey and early Miocene tropical biotic interchange. *Nature* 533(7602):243-246. DOI:10.1038/nature17415.

Boissin, E., T.B. Hoareau, G. Paulay, and J.H. Bruggemann. 2016. Shallow-water ophiuroids (Echinodermata: Ophiuroidea) of Réunion (Mascarene Islands), with biogeographic considerations. *Zootaxa* 4098:273-297.

Bourque, J.R. 2016. New mud turtles (Kinosternidae, *Kinosternon*) from the middle-late Miocene of the United States. *Journal of Paleontology* 89(5):821-844.

Bourque, J. R. 2016. Side-necked turtles (Testudines, Pleurodira) from the ancient Gulf Coastal Plain of Florida during middle Cenozoic megathermals. *Chelonian Conservation and Biology* 15(1):23-35.

Boyd, B.M., J.M. Allen, R. Koga, T. Fukatsu, A.D. Sweet, K.P. Johnson, and D.L. Reed. 2016. Two bacterial genera, *Sodalis* and *Rickettsia*, associated with the Seal louse *Proechinophthirus fluctus* (Phthiraptera: Anoplura). *Applied and environmental microbiology* 82(11):3185-3197.

Boyer, D.M., E.C. Kirk, M.T. Silcox, G.F. Gunnell, C.C. Gilbert, G.S. Yapuncich, K.L. Allen, E. Welch, J.I. Bloch, L.A. Gonzales, and R.F. Kay. 2016. Internal carotid arterial canal size and scaling in Euarchonta: Re-assessing implications for arterial patency and phylogenetic relationships in early fossil primates. *Journal of Human Evolution* 97:123-144. DOI:10.1016/j.jhevol.2016.06.002.

Boyer D.M., G.S. Yapuncich, S.G.B. Chester, J.I. Bloch, and M. Godinot. 2016. Hands of Paleogene primates. pp. 373-419. In: T.L. Kivell, P. Lemelin, B.G. Richmond, and D. Schmitt, eds. *The Evolution of the Primate Hand*. Springer, New York. DOI:10.1007/978-1-4939-3646-5_14.



- Brown, R.M., Y.-C. Su, B. Barger, C.D. Siler, A.C. Diesmos, and **D.C. Blackburn**. 2015. Phylogeny of the island archipelago frog genus *Sanguirana*: Another endemic Philippine radiation that diversified 'Out-of-Palawan.' *Molecular Phylogenetics and Evolution* 94:531-536.
- Bura, V., **A.Y. Kawahara**, and J.E. Yack. 2016. A comparative analysis of sonic defenses in Bombycoidea caterpillars. *Scientific Reports* 6:31469. DOI:10.1038/srep31469.
- Burgess, G.H.** 2015. *Euprotomicrus bispinatus*. The IUCN Red List of Threatened Species 2015: e.T60210A3093076. Available from: <http://dx.doi.org/10.2305/IUCN.UK.2015-4.RLTS.T60210A3093076.en>.
- Calhoun, J.V., P.R. Leary, B. Berthet, and **A.D. Warren**. 2015. *Lethe creola* (Nymphalidae: Satyrinae) is finally confirmed in Florida. *News of the Lepidopterists' Society* 57(3):114-115.
- Ceríaco, L.M.P., S.C. de Sá, S. Bandeira, H. Valério, **E.L. Stanley**, A.L. Kuhn, M.P. Marques, J.V. Vindum, **D.C. Blackburn**, and A.M. Bauer. 2016. Herpetological survey of Iona National Park and Namibe Regional Natural Park, with a synoptic list of the amphibians and reptiles of Namibe Province, southwestern Angola. *Proceedings of the California Academy of Sciences* 63:15-61.
- Chanderbali, A., B. Berger, D. Howarth, **P.S. Soltis**, and **D.E. Soltis**. 2016. Next-generation studies to advance floral evo-devo and provide novel insights into the evolution of the flower. *Genetics* 202:1255-1265.
- Chase, M.W., M.J.M. Christenhusz, M.F. Fay, J.W. Byng, W.S. Judd, **D.E. Soltis**, D.J. Mabberley, A.N. Sennikov, **P.S. Soltis**, and P.F. Stevens. 2016. Angiosperm Phylogeny Group IV. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants. *Botanical Journal of the Linnean Society* 181(1):1-20.
- Chazot, N., **K.R. Willmott**, A.V.L. Freitas, D.L. De Silva, R. Pellens, and M. Elias. 2016. Patterns of species, phylogenetic and mimicry diversity of Clearwing butterflies in the Neotropics. pp. 333-353. In: R. Pellens and P. Grandcolas, eds. *Biodiversity Conservation and Phylogenetic Systematics*. Topics in Biodiversity and Conservation 14. DOI:10.1007/978-3-319-22461-9_17.
- Chen, Y.-P., B. Li, B.T. Drew, **D.E. Soltis**, **P.S. Soltis**, and C.-L. Xiang. 2016. Toward a resolution of the systematic position of *Ombrocharis*: The end of an *incertae sedis* genus in Lamiaceae. *Taxon* 65:123-136.
- Chen, Z.D., T. Yang, L. Lin, L.M. Lu, H.L. Li, **M. Sun**, B. Liu, M. Chen, Y.T. Niu, J.F. Ye, Z.Y. Cao, H.M. Liu, X.M. Wang, W. Wang, J.B. Zhang, Z. Meng, W. Cao, J.H. Li, S.D. Wu, H.L. Zhao, Z.J. Liu, Z.Y. Du, Q.F. Wang, J. Guo, X.X. Tan, J.X. Su, L.J. Zhang, L.L. Yang, Y.Y. Liao, M.H. Li, G.Q. Zhang, S.W. Chung, J. Zhang, K.L. Xiang, R.Q. Li, **D.E. Soltis**, **P.S. Soltis**, S.L. Zhou, J.H. Ran, X.Q. Wang, X.H. Jin, Y.S. Chen, T.G. Gao, J.H. Li, S.Z. Zhang, and A.M. Lu. 2016. China Phylogeny Consortium. Tree of life for the genera of Chinese vascular plants. *Journal of Systematics and Evolution* 54:277-306.
- Chesser, R.T., K.J. Burns, 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. 2016. Fifty-seventh supplement to the American Ornithologists' Union check-list of North American birds. *The Auk* 133:544-560.
- Cho, S., **S.W. Epstein**, K. Mitter, **C.A. Hamilton**, D. Plotkin, C. Mitter, and **A.Y. Kawahara**. 2016. Preserving and vouchering butterflies and moths for large-scale museum-based molecular research. *PeerJ* 4:e2160. DOI:10.7717/peerj.2160.
- Ciccotto, P.J.** and **L.M. Page**. 2016. Revised diagnosis of the genus *Gonorhynchus* McClelland 1838 (Teleostei: Cyprinidae: Labeonini) with the redescription of *G. latius* (Hamilton 1822) and revalidation of *G. wattanah* (Sykes 1839). *Zootaxa* 4127(3):471-492.
- Cobb, C.R.** 2015. The spooky entanglements of historical households. pp. 188-208. In: K.R. Fogle, J.A. Nyman, and M.C. Beaudry, eds. *Beyond the Walls: New Perspectives on the Archaeology of Historical Households*. University of Florida Press, Gainesville.
- Cobb, C.R.** and B.M. Butler. 2016. Mississippian plazas, performances, and portable histories. *Journal of Archaeological Method and Theory* 23(1):1-27.
- Cobb, C.R.** and C.B. DePratter. 2016. Carolina's southern frontier: Edge of a new world order. pp. 43-61. In: A. King, ed. *Archaeology in South Carolina: Exploring the Hidden Heritage of the Palmetto State*. University of South Carolina Press, Columbia.



Cong, Q., J. Shen, **A.D. Warren**, D. Borek, Z. Otwinowski, and N.V. Grishin. 2016. Speciation in cloudless sulphurs gleaned from complete genomes. *Genome Biology and Evolution* 8(3):915-931. DOI:10.1093/gbe/eww045.

Cordell, A.S. 2015. Late seventeenth/early eighteenth-century Apalachee colonoware pottery: A case study in continuity and change. pp. 165-174. In: J. Buxeda-Garrigos, M. Madrid-Fernandez, and J.G. Inanez, eds. *Global Pottery 1: Historical Archaeology and Archaeometry for Societies in Contact*. BAR International Series 2761.

Covell Jr., C.V. 2015. Three new species of *Idaea* Treitschke (Geometridae, Sterrhinae) from the southwestern United States and northern Mexico. *Journal of the Lepidopterists' Society* 69(4):317-325.

Crespo, M.B., M. Martinez-Azorin, and **E.V. Mavrodiev**. 2015. Can a rainbow consist of a single colour? A new comprehensive generic arrangement of the '*Iris sensu latissimo*' Clade (Iridaceae), congruent with morphology and molecular data. *Phytotaxa* 232:1-78.

Crippen, K., **B.A. Duncel**, **B.J. MacFadden**, **S. Ellis**, and L.A. Lundgren. 2015. Framework for social paleontology via an online community space. pp. 305-311. In: *Proceedings of E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2015*. Association for the Advancement of Computing in Education (AACE), Chesapeake, VA.

Crowl, A., N. Miles, C. Visger, K. Hansen, T. Ayers, R. Haberle, and **N. Cellinese**. 2016. A global perspective on Campanulaceae: Biogeographic, genomic, and floral evolution. *American Journal of Botany* 103:233-245.

Crowl, A., C. Visger, G. Mansion, R. Hand, **H.-H. Wu**, G. Kamari, D. Phitos, and **N. Cellinese**. 2015. Evolution and biogeography of the endemic *Roucela* complex (Campanulaceae: Campanula) in the Eastern Mediterranean. *Ecology and Evolution* 5(22):5329-5343. DOI:10.1002/ece3.1791.

De Silva, D.L., M. Elias, **K.R. Willmott**, J. Mallet, and J.J. Day. 2015. Diversification of Clearwing butterflies with the rise of the Andes. *Journal of Biogeography* 43(1):44-58. DOI:10.1111/jbi.12611.

Deccechi, T.A., P.M. Mabey, and **D.C. Blackburn**. 2016. Data sources for trait databases: Comparing the phenomic content of monographs and evolutionary matrices. *PLOS ONE* 11:e0155680.

DiBattista, J.D., J.H. Choat, M.R. Gaither, J.-P.A. Hobbs, D.F. Lozano-Cortés, R.F. Myers, **G. Paulay**, L.A. Rocha, R.J. Toonen, M.W. Westneat, and M.L. Berumen. 2016. On the origin of endemic species in the Red Sea. *Journal of Biogeography* 43:13-30.

DiBattista, J.D., M.B. Roberts, A.H. Baird, J. Bouwmeester, B.W. Bowen, D.J. Coker, D.F. Lozano-Cortés, J.H. Choat, M.R. Gaither, J.-P.A. Hobbs, M.T. Khalil, M. Kochzius, R.F. Myers, **G. Paulay**, V.S.N. Robitzsch, P. Saenz-Agudelo, E. Salas, T.H. Sinclair-Taylor, R.J. Toonen, M.W. Westneat, S.T. Williams, and M.L. Berumen. 2016. A review of contemporary patterns of endemism in the Red Sea. *Journal of Biogeography* 43:423-439.

Dolibaina, D.R., **A.D. Warren**, E. Carneiro, and O.H.H. Mielke. 2015. Three new species of *Artines* Godman, 1901 from Central and South America (Hesperiidae: Hesperinae: Moncini). *Tropical Lepidoptera Research* 25(2):52-59.

Donovan, S.K., D.A.T. Harper, and **R.W. Portell**. 2016. Shell-filled burrows in the upper Oligocene Antigua Formation, Antigua, Lesser Antilles. *Ichnos* DOI:10.1080/10420940.2016.1223653.

Evans, B.J., T.F. Carter, E. Greenbaum, V. Gvoždík, D.B. Kelley, P.J. McLaughlin, O.S.G. Pauwels, D.M. Portik, **E.L. Stanley**, R.C. Tinsley, M.L. Tobias, and **D.C. Blackburn**. 2015. Genetics, morphology, advertisement calls, and historical records distinguish six new polyploid species of African Clawed frog (*Xenopus*, Pipidae) from West and Central Africa. *PLOS ONE* 10:e0142823.

Erpenbeck, D., O. Voigt, A.M. Al-Aidaros, M.L. Berumen, G. Büttner, D. Catania, A.N. Guirguis, **G. Paulay**, S. Schätzle, and G. Wörheide. 2016. Molecular biodiversity of Red Sea demosponges. *Marine Pollution Bulletin* 105:507-514.

Fan, D.-M., W. Hu, B. Li, A.B. Morris, M. Zheng, **D.E. Soltis**, **P.S. Soltis**, and Z.-Y. Zhang. 2016. Idiosyncratic responses of evergreen broad-leaved forest species in China to late Quaternary climate changes. *Scientific Reports* 6:31044. DOI:10.1038/srep31044.

Freitas, A.V.L., E. Barbosa, **K.R. Willmott**, N. Wahlberg, and G. Lamas. 2016. 'Species' from three different butterfly genera combined into one: Description of a new genus of Euptychiina (Nymphalidae: Satyrinae) with unusually variable wing pattern. *Revista Brasileira de Entomologia* 60(2):157-165. DOI:10.1016/j.rbe.2016.01.004.



Fujisaki, I., F.J. Mazzotti, J. Watling, **K.L. Krysko**, and Y. Escribano. 2015. Geographic risk assessment reveals spatial variation in invasive species potential of exotic reptiles in invasive species hotspot. *Herpetological Conservation and Biology* 10:621-632.

Germain-Aubrey, C.C., C. Nelson, **P.S. Soltis, D.E. Soltis**, and **M.A. Gitzendanner**. 2016. Are microsatellite fragment lengths useful for population-level studies? The case of *Polygala lewtonii* (Polygalaceae). *Applications in Plant Sciences* 4(2):1500115. DOI:10.3732/apps.1500115.

Gillooly, J.F., **J.P. Gomez, E.V. Mavrodiev**, Y. Rong, and E.S. McLaamore. 2016. Body mass scaling of passive oxygen diffusion in endotherms and ectotherms. *Proceedings of the National Academy of Sciences of the United States of America* 113(19):5340-5345.

Givnish, T.J., D. Spalink, M. Ames, S.P. Lyon, S.J. Hunter, A. Zuluaga, A. Doucette, G.G. Caro, J. McDaniel, W.J.D. Iles, M.A. Clements, M.T.K. Arroyo, J. Leebens-Mack, L. Endara, R. Kriebel, K.M. Neubig, **N.H. Williams**, and K.M. Cameron. 2016. Orchid historical biogeography, diversification, Antarctica, and the paradox of orchid dispersal. *Journal of Biogeography* 43:1905-1916.

Givnish, T.J., D. Spalink, M. Ames, S.P. Lyon, S.J. Hunter, A. Zuluaga, W.J.D. Iles, M.A. Clements, M.T.K. Arroyo, J. Leebens-Mack, L. Endara, R. Kriebel, K.M. Neubig, **W.M. Whitten, N.H. Williams**, and K.M. Cameron. 2015. Orchid phylogenomics and multiple drivers of their extraordinary diversification. *Proceedings of the Royal Society B* 282:20151553. DOI:10.1098/rspb.2015.1553.

Grant, C., P. Antonenko, J. Tovani, A. Wood, and **B.J. MacFadden**. 2015. 3D scanning of fossils for middle and high school students: Science teachers' perspectives. *Research Highlights in Technology and Teacher Education* 2015:97-104.

Hamed, M.K. and **J.C. Mitchell**. 2015. James Albert Organ (1931-2015). *Herpetological Review* 46(3):39-41.

Hamed, M.K., S.C. Walls, and **J.C. Mitchell**. 2015. James A. Organ (1931-2015). *Catesbeiana* 35(1):27-30.

Harrington, A.R., M.T. Silcox, G.S. Yapuncich, D.M. Boyer, and **J.I. Bloch**. 2016. First virtual endocasts of adapiform primates. *Journal of Human Evolution* 99:52-78. DOI:10.1016/j.jhevol.2016.06.005.

Hart, M.K., **A.W. Kratter**, and P.H. Crowley. 2016. Partner fidelity and reciprocal investments in the mating system of a simultaneous hermaphrodite. *Behavioral Ecology* 2016:1-9. DOI:10.1093/beheco/arw065.

Hellinger, R., J. Koehbach, **D.E. Soltis**, E.J. Carpenter, G.K.-S. Wong, and C.W. Gruber. 2016. Peptidomics of circular cysteine-rich plant peptides – Analysis of the diversity of cyclotides from *Viola tricolor* by transcriptome- and proteome-mining. *Journal of Proteomic Research* 14(11):4851-4862.

Hinchliff, C.E., S.A. Smith, J.F. Allman, J.G. Burleigh, R. Chaudhary, L.M. Coghill, K.A. Crandall, J. Deng, B.T. Drew, R. Gazisg, K. Gude, D.S. Hibbettg, L.A. Katz, H.D. Laughinghouse, E.J. McTavish, P.E. Midford, C.L. Owen, R.H. Reed, J.A. Rees, **D.E. Soltis**, T. Williams, and K.A. Cranston. 2015. Synthesis of phylogeny and taxonomy into a comprehensive tree of life. *Proceedings of the National Academy of Sciences* 112(41):12764-12769.

Hirschfeld, M., **D.C. Blackburn**, M. Burger, E. Greenbaum, A.-G. Zassi-Boulou, and M.-O. Rödel. 2015. Two new species of Long-fingered frogs of the genus *Cardioglossa* (Anura: Arthroleptidae) from Central African rainforests. *African Journal of Herpetology* 64:81-102.

Hirschfeld, M., **D.C. Blackburn**, T.M. Doherty-Bone, L.N. Gonwouo, S. Ghose, and M.-O. Rödel. 2016. Dramatic declines of montane frogs in a Central African biodiversity hotspot. *PLOS ONE* 11:e0155129.

Hodel, R.G., **M.A. Gitzendanner, C.C. Germain-Aubrey, A.A. Crowl, J.B. Landis, M. Sun, X. Liu, C.M. Salcedo-Segovia, N.A. Douglas, S. Chen, J.M. Heaney, H.R. Kates, D.E. Soltis**, and **P.S. Soltis**. 2016. A new resource for the development of SSR markers: Millions of loci from a thousand plant transcriptomes. *Applications in Plant Sciences* 4(6):1600024.

Hodel, R.G., C.M. Salcedo-Segovia, J.B. Landis, **A.A. Crowl, M. Sun, X. Liu, M.A. Gitzendanner, N.A. Douglas, C.C. Germain-Aubrey, S. Chen, D.E. Soltis**, and **P.S. Soltis**. 2016. The report of my death was an exaggeration: A review for researchers using microsatellites in the 21st century. *Applications in Plant Sciences* 4(6):1600025.



- Hodel, R.G., P.S. Soltis, and D.E. Soltis. 2016. Phylogeography of two coastal trees (Black mangrove, *Avicennia germinans*, and Red mangrove, *Rhizophora mangle*). *American Journal of Botany* 103(4):1-10.
- Hosner, P.A., M.J. Andersen, M.B. Robbins, A. Urbay-Tello, L. Cueto-Aparicio, K. Verde-Guerra, L.A. Sánchez González, A.G. Navarro-Sigüenza, R.L. Boyd, J. Núñez, J. Tiravanti, M. Combe, H.L. Owens, and A.T. Peterson. 2015. Avifaunal surveys of the Apurímac river valley, Ayacucho and Cuzco departments, Peru: New distributional records and biogeographic, taxonomic, and conservation implications. *Wilson Journal of Ornithology* 127:563-812.
- Hossie, T., J. Skelhorn, J.W. Breinholt, A.Y. Kawahara, and T.N. Sherratt. 2015. Body size affects the evolution of eyespots in caterpillars. *Proceedings of the National Academy of Sciences, USA* 112(21):6664-6669. DOI:10.1073/pnas.1415121112.
- Hutchinson, D.L., L. Norr, T. Schober, W.H. Marquardt, K.J. Walker, L.A. Newsom, and C.M. Scarry. 2016. The Calusa and prehistoric subsistence in central and south Gulf Coast Florida. *Journal of Anthropological Archaeology* 41:55-73.
- Hyžný, M. and A.A. Klompmaker. 2015. Systematics, phylogeny, and taphonomy of Ghost shrimps (Decapoda): A perspective from the fossil record. *Arthropod Systematics and Phylogeny* 73(3):401-437.
- Islam, M. and R.P. Guralnick. 2015. Generic placement of the former *Condaliopsis* (Rhamnaceae) species. *Phytokeys* 236(1):25-39.
- Jetz, W., J. Cavender-Bares, R. Pavlick, D. Schimel, F. Davis, G.P. Asner, R.P. Guralnick, J. Kattge, A. Latimer, P. Moorcroft, M.E. Schaepman, M.P. Schildhauer, F.D. Schneider, F. Schrod, U. Stahl, and S.L. Ustin. 2016. Monitoring plant functional diversity from space. *Nature Plants* 2(3):16024. DOI:10.1038/nplants.2016.24.
- Johns, C.J., M.R. Moore, and A.Y. Kawahara. 2016. Molecular phylogeny, revised higher classification, and implications for the conservation of the endangered Hawaiian leaf-mining moths (Lepidoptera: Gracillariidae: *Philodoria*). *Pacific Science* 70(3):361-372.
- Jongsma, G.F.M., A.B. Kaya, J.-A. Yoga, J.-D. Mbega, J.-H. Mve Beh, E. Tobi, A.M. Emrich, G.P. Dixon-MacCallum, D. Davis, J. Kerby, and D.C. Blackburn. 2016. Widespread presence and high prevalence of *Batrachochytrium dendrobatidis* in Gabon. *Herpetological Review* 47:227-230.
- Jordon-Thaden, I.E., A.S. Chanderbali, M.A. Gitzendanner, and D.E. Soltis. 2015. RNA extraction across the Embryophyta. *Applications in Plant Sciences* 3(4). DOI:10.3732/apps.1400115.
- Joyce, W.G. and J.R. Bourque. 2016. A review of the fossil record of turtles of the clade Pan-Kinosternoidea. *Bulletin of the Peabody Museum of Natural History* 57(1):57-95.
- Kawahara, A.Y., D. Plotkin, I. Ohshima, C. Lopez-Vaamonde, P. Houlihan, J.W. Breinholt, A. Kawakita, L. Xiao, J.C. Regier, D.R. Davis, T. Kumata, J.-C. Sohn, and C. Mitter. 2016. A molecular phylogeny and revised higher-level classification for the leaf-mining moth family Gracillariidae and its implications for larval host use evolution. *Systematic Entomology* DOI:10.1111/syen.12210.
- Keiser, L.J., G.S. Soreghan, and M. Kowalewski. 2015. Use of quartz microtextural analysis to assess possible proglacial deposition for the Pennsylvanian-Permian Cutler Formation (Colorado, U.S.A.). *Journal of Sedimentary Research* 85:1310-1322.
- Kim, H.T., J.S. Kim, M.J. Moore, K.M. Neubig, N.H. Williams, W.M. Whitten, and J.H. Kim. 2015. Seven new complete plastome sequences reveal rampant independent loss of the *ndh* gene family across orchids and associated instability of the inverted repeat/small single-copy region boundaries. *PLOS ONE* 10(11):e0142215. DOI:10.1371/journal.pone.0142215.
- Kjer, K.M., J.L. Ware, J. Rust, T. Wappler, R. Lanfear, S. Jermin, X. Zhou, A. Aspöck, U. Aspöck, R.G. Beutel, A. Blanke, A. Donath, T. Flouri, P.B. Frandsen, P. Kapli, A.Y. Kawahara, H. Letsch, C. Mayer, D.D. McKenna, K. Meusemann, O. Niehuis, R.S. Peters, B.M. Wiegmann, D.K. Yeates, B.M. von Reumont, A. Stamatakis, and B. Misof. 2015. Response to comment on "phylogenomics resolved the timing and pattern of insect evolution". *Science* 349(6247):487. DOI:10.1126/science.aaa7136.
- Kleist, N., R.P. Guralnick, A. Cruz, and C. Francis. 2016. Noise pollution masks intruder song and weakens territorial response. *Ecosphere* 7(3):e01259. DOI:10.1002/ecs2.1259.



- Klompemaker, A.A., R.W. Portell, A.T. Klier, V. Prueter, and A.L. Tucker.** 2015. Spider crabs of the Western Atlantic with special reference to fossil and some modern Mithracinae. *PeerJ* 3:e1301. DOI:10.7717/peerj.1301.
- Klompemaker, A.A., R.W. Portell, and S.E.T. van der Meij.** 2016. Trace fossil evidence of coral-inhabiting crabs (Cryptochiridae) and its implications for growth and paleobiogeography. *Scientific Reports* 6:23443. DOI:10.1038/srep23443.
- Klompemaker, A.A., C. Schweitzer, R. Feldmann, and M. Kowalewski.** 2015. Environmental and scale-dependent evolutionary trends in the body size of crustaceans. *Proceedings of the Royal Society B* 282:20150440.
- Kosnik, M.A. and M. Kowalewski.** 2016. Using palaeoecological data to understand extinction risk in marine ecosystems. *Biology Letters* 12:20150951.
- Kou, Y., S. Cheng, S. Tian, B. Li, S. Dong, Y. Chen, D.E. Soltis, P.S. Soltis, and Z. Zhang.** 2015. The antiquity of *Cyclocarya paliurus* (Juglandaceae) provides new insights into the evolution of relict plants in subtropical China since the late Early-Miocene. *Journal of Biogeography* 43(2):351-360.
- Krysko, K.L. and W.B. Love.** 2016. Predation by the nonnative Tokay gecko, *Gekko gecko* (Linnaeus 1758), on the native Carolina wren (*Thryothorus ludovicianus*) and nonnative Cuban treefrog (*Osteopilus septentrionalis*) in Florida, USA. *Reptiles & Amphibians: Conservation and Natural History* 23:44-45.
- Krysko, K.L. and C. MacKenzie-Krysko.** 2016. First report of the Mourning gecko, *Lepidodactylus lugubris* (Duméril & Bibron 1836), from the Bahamas. *Caribbean Herpetology* 54:1-2.
- Krysko, K.L., C.A. MacKenzie-Krysko, L.L. Connor, Y.U. Alfonso, and L.P. Nuñez.** 2015. The Cuban Blue anole, *Anolis allisoni* Barbour 1928 (Squamata: Dactyloidae), a new nonnative lizard introduced to Florida. *Reptiles & Amphibians: Conservation and Natural History* 22:128-131.
- Krysko, K.L., L.P. Nuñez, C.A. Lippi, D.J. Smith, and M.C. Granatosky.** 2016. Pliocene-Pleistocene lineage diversifications in the Eastern Indigo snake (*Drymarchon couperi*) in the southeastern United States. *Molecular Phylogenetics and Evolution* 98:111-122.
- Krysko, K.L. and E.H.L. Snellings Jr.** 2016. *Sistrurus miliarius* (Pygmy rattlesnake): Record size. *Herpetological Review* 47:242.
- Krysko, K.L., D.W. Steadman, L.P. Nuñez, and D.S. Lee.** 2015. Molecular analyses of Caribbean dipsadid (Xenodontinae: Alsophiini) snakes, including identification of the first record from the Cay Sal Bank, The Bahamas. *Zootaxa* 4028:441-450.
- Landis, J.B., R. O'Toole, K.L. Ventura, M.A. Gitzendanner, D.G. Oppenheimer, D.E. Soltis, and P.S. Soltis.** 2015. The phenotypic and genetic underpinnings of flower size in Polemoniaceae. *Frontiers in Plant Science* 6:1144.
- Lane, T., C. Rempe, J. Davitt, M. Staton, Y. Peng, D.E. Soltis, M. Melkonian, M. Deyholos, J. Leebens-Mack, M. Chase, C. Rothfels, D. Stevenson, S. Graham, J. Yu, T. Liu, C. Pires, P. Edgar, Y. Zhang, Y. Xie, Y. Zhu, E. Carpenter, G. Wong, and N. Stewart.** 2016 Distribution of ABC transporter genes across plants. *BMC Biotechnology* 16:47.
- Lewis, D., S. Nakahara, F. Sperling, A. Cotton, A.Y. Kawahara, and F. Condamine.** 2015. Role of Caribbean Islands in the diversification and biogeography of Neotropical *Heraclides* swallowtails. *Cladistics* 31(3):291-314.
- Li, H.L., W. Wang, P.E. Mortimer, R.-Q. Li, D.-Z. Li, K.D. Hyde, J.-C. Xu, D.E. Soltis, and Z.-D. Chen.** 2015. Large-scale phylogenetic analyses reveal multiple gains of symbiotic actinorhizal nitrogen fixation in angiosperms associated with climate changes. *Scientific Reports* 5:14023.
- Lollis, C., N.J. Wallis, and A.S. Cordell.** 2015. Was St. Johns pottery made with swamp muck as temper? An experimental assessment. *The Florida Anthropologist* 68:97-112.
- Londono, G.A., M.A. Chappell, J.E. Jankowski, and S.K. Robinson.** 2016. Do thermoregulatory costs limit altitude distributions of Andean forest birds? *Functional Ecology*. DOI:10.1111/1365-2435.12697.
- Luis-Martínez, A., B. Hernández-Mejía, M. Trujano-Ortega, A.D. Warren, J. Salinas-Gutiérrez, O. Avalos-Hernández, I. Vargas-Fernández, and J. Llorente-Bousquets.** 2016. Avances faunísticos en los Papilionoidea (Lepidoptera) *sensu lato* de Oaxaca, México. *Southwestern Entomologist* 41(1):171-224.



Lukhtanov, V.L., A. Sourakov, and E.V. Zakharov. 2016. DNA barcodes as a tool in biodiversity research: Testing pre-existing taxonomic hypotheses in Delphic Apollo butterflies (Lepidoptera, Papilionidae). *Systematics and Biodiversity* 2016:1-15. DOI:10.1080/14772000.2016.1203371.

MacFadden, B.J., L. Lundgren, B.A. Dunckel, S. Ellis, and K. Crippen. 2016. Amateur paleontological societies and fossil clubs, interactions with professional paleontologists, and social paleontology in the United States. *Paleontologica Electronica* 19.2.1E:1-19.

MacFadden, B.J., C. Symister, N. Cannarozzi, C. Pimiento, and C. De Gracia. 2015. Comparative diagenesis and Rare Earth Element (REE) variation in Miocene invertebrate and vertebrate fossils from Panama. *Journal of Geology* 123(6):491-507. DOI:10.1086/684006.

Marchant, D.B., D.E. Soltis, and P.S. Soltis. 2016. Genome evolution in plants. *Encyclopedia of Life Sciences* 2016:1-8.

Marquardt, W.H. and L. Kozuch. 2016. The Lightning whelk: An enduring icon of southeastern North American spirituality. *Journal of Anthropological Archaeology* 42:1-26.

Martinez, A. and S.K. Robinson. 2016. Using foraging ecology to elucidate the role of species interactions in two contrasting mixed-species flock systems in northeastern Peru. *Wilson Journal of Ornithology* 128(2):378-390.

Matyášek, R., E. Dobesova, D. Huska, I. Jezkova, P.S. Soltis, D.E. Soltis, and A. Kovařík. 2015. Interpopulation hybridization generates meiotically stable rDNA epigenetic variants in allotetraploid *Tragopogon mirus*. *Plant Journal* 85:362-377. DOI:10.1111/tpj.13110.

Mavrodiev, E.V. and O.A. Kapitonova. 2015. Taxonomic composition of Typhaceae of the flora of European Russia. *Novitates Systematicae Plantarum Vascularium* 46:5-24.

Mavrodiev, E.V., A.P. Laktionov, and Yu. Alexeev. 2015. On new dogbanes of South-Eastern European Russia due to the acceptance of the genus *Poacynum* baill. (Apocynaceae). *Novitates Systematicae Plantarum Vascularium* 46:157-163.

Mendyk, R.W., K.L. Krysko, M.R. Rochford, S. Wallace, and F.J. Mazzotti. 2016. Reproduction notes on female Northern African Rock pythons (*Python sebae*) in southern Florida, USA. *Reptiles & Amphibians: Conservation and Natural History* 23:16-20.

Meyer, C., W. Jetz, R.P. Guralnick, S.A. Fritz, and H. Kreft. 2016. Range geometry and socio-economics dominate species-level biases in occurrence information. *Global Ecology and Biogeography* 25(10):1181-1193.

Milanich, J.T. 2016. *The Florida Adventures of Amos Jay Cummings, 1873-1893*. Florida Historical Society Press, Cocoa, FL.

Milbrath, S. 2016. La evidencia de la agro-astronomía entre los antiguos mayas. *Estudios de Cultura Maya*. XLVII:11-29.

Milbrath, S. and D. Walker. 2016. Workshops for postclassic effigy censers in the Chetumal area. pp. 186-213. In: D. Walker, ed. *Investigations in the Land of Chocolate and Honey: Recent Archaeological Research on Chetumal Bay*. University Press of Florida, Gainesville.

Mitchell, J.C. and S. Foertmeyer. 2015. Field notes: *Terrapene carolina carolina* (Woodland Box Turtle) maximum egg size. *Catesbeiana* 35(1):33-34.

Mitchell, J.C. and S. Foertmeyer. 2015. Field notes: *Terrapene carolina carolina* (Woodland Box Turtle) maximum size. *Catesbeiana* 35(1):34-35.

Mitchell, J.C. and G.R. Johnston. 2016. Natural history notes: *Pseudemys suwanniensis* (Suwannee Cooter). Kyphoscoliosis. *Herpetological Review* 47(1):127-128.

Mitchell, J.C., J.R. Mendelson III, and M.M. Stewart. 2015. Historical Perspectives: George Bernard Rabb. *Copeia* 2015:1086-1092.

Molgo, I.E., G.C. Fernández-Concha, W.M. Whitten, and N.H. Williams. 2016. *Dendrophylax megarhizus* (Orchidaceae), a new species from Mexico. *Systematic Botany* 41(2):263-274.

Moran, S.M., C. McLaughlin, B.J. MacFadden, E. Jaccobe, and M. Poole. 2015. Fossil explorers: Exploring ancient organisms in modern times. *Science and Children* December Issue:3-8.



Morgan, G.S., **B.J. MacFadden**, and M. Martínez. 2015. Quaternary gomphotheres (Mammalia: Proboscidea: Gomphotheriidae) from the continental shelf, Pearl islands, Panama. *Quaternary International* 392:335–348.

Nakahara, S., E.P. Barbosa, M.A. Marín, A.V.L. Freitas, **T. Pomerantz**, and **K.R. Willmott**. 2016. *Graphita* gen. nov., a new genus for *Neonympha griphe* C. Felder & R. Felder, 1867 (Lepidoptera, Nymphalidae, Satyrinae). *Neotropical Entomology* 2016:1–17. DOI:10.1007/s13744-016-0414-x.

Nakahara, S., J.P.W. Hall, G. Lamas, and **K.R. Willmott**. 2015. Seven new species and one new subspecies of *Euptychia* Hübner, 1818 (Lepidoptera: Nymphalidae: Satyrinae) from the tropical Andes. *Tropical Lepidoptera Research* 25(2):63–79.

Nakahara, S., J. Llorente-Bousquets, A. Luis-Martínez, **J.Y. Miller**, and **A.D. Warren**. 2015. Two new species of *Euptychia* Hübner 1818 (Lepidoptera: Nymphalidae: Satyrinae) from Mexico and Guatemala. *Journal of Research on the Lepidoptera* 48:51–57.

Neff, M., S. Viernum, S.E. Twitchell, and **J.C. Mitchell**. 2015. Three more unusually-colored salamanders from North America. *Herpetology Notes* 8:599–601.

Neubig, K.M., O.J. Blanchard, **W.M. Whitten**, and S.F. McDaniel. 2015. Molecular phylogenetics of *Kosteletzkya* (Malvaceae, Hibisceae) reveals multiple independent and successive polyploid speciation events. *Botanical Journal of the Linnean Society* 179:421–435.

Neubig, K.M., B.S. Carlswald, **W.M. Whitten**, and **N.H. Williams**. 2015. Nectary structure and nectar in *Sobralia* and *Elleanthus* (Sobralieae, Orchidaceae). *Lankesteriana* 15:113–127.

Oswald, J.A., J.G. Burleigh, **D.W. Steadman**, **S.K. Robinson**, and **A.W. Kratter**. 2015. Historical climatic variability and geographic barriers as drivers of community composition in the biodiversity hotspot. *Journal of Biogeography*. 43(1):123–133. DOI:10.1111/jbi.12605.

Oswald, J.A. and **D.W. Steadman**. 2015. The changing diversity and distribution of Neotropical songbirds since the last ice age. *The Auk* 132:836–862.

Otegui, J. and **R.P. Guralnick**. 2016. The geospatial data quality REST API for primary biodiversity data. *Bioinformatics* 32(11):1755–1757. DOI:10.1093/bioinformatics/btw057.

Page, L.M., **B.J. MacFadden**, J.A. Fortes, **P.S. Soltis**, and G. Riccardi. 2015. Digitization of biodiversity collections reveals biggest data on biodiversity. *Bioscience* 65(9):841–842. DOI:10.1093/biosci/biv104.

Peacock, E. and **I.R. Quitmyer**. 2016. Pre-Columbian foraging in stable, inland environments: An example from the Tombigbee River drainage, Mississippi and Alabama. *Journal of Ethnobiology* 36(2):294–311.

Pérez-Escobar, O.A., M. Gottschling, **W.M. Whitten**, G. Salazar, and G. Gerlach. 2016. Sex and the Catasetinae (Darwin's favourite orchids). *Molecular Phylogenetics and Evolution* 97:1–10.

Pimiento, C., **B.J. MacFadden**, C. Clements, J. Velez-Juarbe, C. Jaramillo, and B. Silliman. 2016. Geographic distribution patterns of *Carcharocles megalodon* over time reveal clues about mechanisms of extinction. *Journal of Biogeography* 43(8):1645–1655. DOI:10.1111/jbi.12754.

Portik, D.M. and **D.C. Blackburn**. 2016. The evolution of reproductive diversity in Afrobatrachia: A phylogenetic comparative analysis of an extensive radiation of African frogs. *Evolution* 70:2017–2032.

Portik, D.M., L. Scheinberg, **D.C. Blackburn**, and R.A. Saporito. 2015. Lack of defensive alkaloids in the integumentary tissue of four brilliantly colored African Reed frog species (Hyperoliidae: Hyperolius). *Herpetological Conservation and Biology* 10:833–838.

Pranty, B., **A.W. Kratter**, and V. Ponzo. 2016. Status and distribution in Florida of Tropical kingbird (*Tyrannus melancholicus*) and Couch's kingbird (*Tyrannus couchii*). *Florida Field Naturalist* 44:83–105.

Regier, J.C., C. Mitter, N.P. Kristensen, D.R. Davis, E.J. van Nieukerken, J. Rota, T.J. Simonsen, K.T. Mitter, **A.Y. Kawahara**, S.-H. Yen, M.P. Cummings, and A. Zwick. 2015. A molecular phylogeny for the oldest (non-ditrysian) lineages of extant Lepidoptera, with implications for classification, comparative morphology and life history evolution. *Systematic Entomology* 40(4):671–704. DOI:10.1111/syen.12129.



- Rhodin, A.G.J., S. Thomson, G.L. Georgalis, H.-V. Karl, I.G. Danilov, A. Takahashi, M.S. de la Fuente, **J.R. Bourque**, M. Delfino, R. Bour, J.B. Iverson, H.B. Shaffer, and P.P. van Dijk. 2015. Turtles and tortoises of the world during the rise and global spread of humanity: First checklist and review of extinct Pleistocene and Holocene Chelonians. *Chelonian Research Monographs* No. 5. DOI:10.3854/crm.5.000e.fossil.checklist.v1.2015.
- Rochford, M.R., **K.L. Krysko**, F.J. Mazzotti, M.H. Shirley, M.W. Parry, J.A. Wasilewski, J.S. Beauchamp, C.R. Gillette, E.F. Metzger III, M.A. Squires, and **L.A. Somma**. 2016. Molecular analyses confirming the introduction of Nile crocodiles, *Crocodylus niloticus* Laurenti 1768 (Crocodylidae), in southern Florida, with an assessment of potential for establishment, spread, and impacts. *Herpetological Conservation and Biology* 11:80-89.
- Rochford, M.R., J.M. Lemm, **K.L. Krysko**, **L.A. Somma**, R.W. Hansen, and F.J. Mazzotti. 2015. Spreading holiday spirit and Northwestern salamanders, *Ambystoma gracile* (Baird 1859) (Caudata: Ambystomatidae), across the USA. *Reptiles & Amphibians: Conservation and Natural History* 22:126-127.
- Rumsey, B.T., **A.A. Klompmaker**, and **R.W. Portell**. 2016. Paleobiogeography of the box crab *Calappilia* with a new species from the Eocene-Oligocene of Florida, USA. *Journal of Crustacean Biology* 36(3):329-337. DOI:10.1163/19337240X-00002422.
- Rojas, A.**, A. Hendy, and G.P. Dietl. 2015. Edge-drilling behavior in the predatory gastropod *Notocochlis unifasciata* (Lamarck, 1822) (Caenogastropoda, Naticidae) from the Pacific Coast of Panama. *Vita Malacologica* 13:63-72.
- Rothfels, C.J., F.-W. Li, E.M. Sigel, L. Huiet, A. Larsson, D.O. Burge, M. Ruhsam, M. Deyholos, **D.E. Soltis**, N. Stewart, S. Shaw, L.M. Pokorny, T. Chen, C. dePamphilis, L. DeGironimo, D.W. Stevenson, S.W. Graham, G.K.-S. Wong, and K.M. Pryer. 2015. The evolutionary history of ferns inferred from 25 single-copy nuclear genes. *American Journal of Botany* 102(7):1089-1107. DOI:10.3732/ajb.1500089.
- Salinas-Gutiérrez, J.L., **A.D. Warren**, A. Luis-Martínez, and C. Hernández-Mejía. 2015. Diversity and distribution of skippers (Lepidoptera: Hesperioidea: Hesperidae) in Michoacán, Mexico. *Southwestern Entomologist* 40(4):789-816.
- Sassaman, K.E., **N.J. Wallis**, **P.S. McFadden**, G.J. Mahar, J.A. Jenkins, **M.C. Donop**, M.P. Monés, A. Palmiotto, A. Boucher, J.M. Goodwin, and C.I. Oliveira. 2016. Keeping pace with rising sea: The first six years of the lower Suwannee archaeological survey. *Journal of Island and Coastal Archaeology* DOI:10.1080/15564894.2016.1163758.
- Saupe, E.E., H. Qiao, J.R. Hendricks, **R.W. Portell**, S. Hunter, J. Soberón, and B.S. Lieberman. 2015. Niche breadth and geographic range size as determinates of species survival on geological time scales. *Global Ecology and Biogeography* 24(10):1159-1169. DOI:10.1111/geb.12333.
- Schmelz, G.W. and **R.W. Portell**. 2016. Two new species of Neogene Truncatella Risso, 1840 (Gastropoda: Truncatellidae) from the Chipola Formation and Tamiami Formation (upper? Pinecrest beds) of Florida. *The Nautilus* 130(4):13-16.
- Sehrish, T., V.V. Symonds, **D.E. Soltis**, **P.S. Soltis**, and J.A. Tate. 2015. Cyto-nuclear coordination is not immediate upon allopolyploid formation in *Tragopogon miscellus* (Asteraceae) allopolyploids: Insight into cytonuclear compatibility. *PLOS ONE* 10(12). DOI:10.1371/journal.pone.0144339.
- Semprebon, G.M., F. Rivals, N. Solounias, and **R.C. Hulbert Jr.** 2016. Paleodietary reconstruction of fossil horses from the Eocene through Pleistocene of North America. *Palaeogeography, Palaeoclimatology, Palaeoecology* 442:110-127.
- Smith, F.A., J.L. Payne, N.A. Heim, M.A. Balk, S. Finnegan, **M. Kowalewski**, S.K. Lyons, C.L. McClain, D.W. McShea, P.M. Novack-Gottshall, P.S. Anich, and S.C. Wang. 2016. Body size evolution across the Geozoic. *Annual Review of Earth and Planetary Sciences* 44:523-553.
- Snyder, D.B. and **G.H. Burgess**. 2016. *The Marine Fishes of Florida*. Johns Hopkins University Press, Baltimore, MD.
- Sohn, J.-C., J.C. Regier, C. Mitter, D. Adamski, J.-F. Landry, M. Heikkilä, K.-T. Park, T. Harrison, K. Mitter, A. Zwick, **A.Y. Kawahara**, S. Cho, M.P. Cummings, and P. Schmitz. 2015. Phylogeny and feeding trait evolution of the mega-diverse Gelechioidea (Lepidoptera: Obtectomera): New insight from 19 nuclear genes. *Systematic Entomology* 41(1):112-132. DOI:10.1111/syen.12143.



- Soltis, D.E.** 2016. Floral flexibility: Diversification of the flower. *Nature Plants* 19:30:49.
- Soltis, D.E., B.B. Misra, S. Shan, S. Chen, and P.S. Soltis.** 2016. Polyploidy and the proteome. *Biochimica et Biophysica Acta (BBA) – Proteins and Proteomics* 1864:896–907.
- Soltis, D.E., C.J. Visger, B. Marchant, and P.S. Soltis.** Polyploidy—pitfalls and paths to a paradigm. *American Journal of Botany* 103(10):1–21.
- Soltis, P.S. and D.E. Soltis.** 2016. Ancient WGD events as drivers of key innovations in angiosperms. *Current Opinions in Genetics and Development* 30:159–165.
- Soltis, P.S., D.B. Marchant, Y. Van de Peer, and D.E. Soltis.** 2015. Polyploidy and genome evolution in plants. *Current Opinions in Genetics and Development* 35:119–125.
- Sourakov, A.** 2015. Gynandromorphism in *Automeris io* (Lepidoptera: Saturniidae). *News of Lepidopterists' Society* 57(3):118–129.
- Sourakov, A.** 2016. On adult caterpillar mimicry: Cases from the moth world. *News of the Lepidopterists' Society* 58(2):97–99.
- Sourakov, A., D. Plotkin, A.Y. Kawahara, L. Xiao, W. Hallwachs, and D. Janzen.** 2015. On the taxonomy of the erythrina moths *Agathodes* and *Terastia* (Crambidae: Spilomelinae): Two different patterns of haplotype divergence and a new species of *Terastia*. *Tropical Lepidoptera Research* 25(2):80–97.
- Sourakov, A. and A.D. Warren.** 2016. Two special collections at the McGuire Center are digitized. *News of the Lepidopterists' Society* 58(3):119.
- Speer, K.A., J.A. Soto-Centeno, N.A. Albury, Z. Quicksall, M.G. Marte, and D.L. Reed.** 2015. Bats of the Bahamas: Natural history and conservation. *Bulletin of the Florida Museum of Natural History* 53(3):45–95.
- Steadman, D.W., N.A. Albury, B. Kakuk, J.I. Mead, J.A. Soto-Centeno, H.M. Singleton, and J. Franklin.** 2015. The vertebrate community on an ice-age Caribbean island. *Proceedings of the National Academy of Sciences, USA* 112(44):e5963–E5971. DOI:10.1073/pnas.1516490112.
- Steadman, D.W. and O.M. Takano.** 2016. A new species of snipe (Aves: Scolopacidae: *Gallinago*) from the West Indies. *Zootaxa* 4109(3):345–358. DOI:org/10.11646/zootaxa.4109.3.5.
- Stull, G.W., N.F. Refulio-Rodriguez, R.G. Olmstead, R. Duno De Stefano, D.E. Soltis, and P.S. Soltis.** 2015. Resolving enigmatic basal lamiid relationships with a plastome-scale data set. *American Journal of Botany* 102(11):1794–1813.
- Sun, M., R. Naeem, J. Su, Z. Cao, J.G. Burleigh, P.S. Soltis, D.E. Soltis, and Z. Chen.** 2016. Phylogeny of the *Rosidae*: A dense taxon sampling analysis. *Journal of Systematics and Evolution* 54:363–391.
- Sun, Y., M.J. Moore, S. Zhang, J. Li, H. Wang, P.S. Soltis, and D.E. Soltis.** 2016. Comparative analyses of 18 complete plastomes across all families of early-diverging eudicots. *Molecular Phylogenetics and Evolution* 96:93–101.
- Swaddle, J., C.D. Francis, J.R. Barber, C.B. Cooper, C.C.M. Kyba, D. Dominoni, G. Shannon, E. Aschehoug, S. Goodwin, A.Y. Kawahara, D. Luther, K. Spoelstra, M. Voss, and T. Longcore.** 2015. A framework to assess evolutionary responses to anthropogenic light and sound. *Trends, Ecology and Evolution (TREE)* 30(9):550–560. DOI:10.1016/j.tree.2015.06.009.
- Takano, O.M. and D.W. Steadman.** 2015. A new species of woodcock (Aves: Scolopacidae: *Scolopax*) from Hispaniola, West Indies. *Zootaxa* 4032(1):117–126. DOI:org/10.11646/zootaxa.4032.1.6.
- Tank, D.C., J.M. Eastman, M.W. Pennell, P.S. Soltis, D.E. Soltis, C.E. Hinchliff, J.W. Brown, and L.J. Harmon.** 2015. Progressive radiations and the pulse of angiosperm diversification. *New Phytologist* 207(2):454–467. DOI:10.1111/nph.13491.



Thompson, V., **W.H. Marquardt**, **K.J. Walker**, A. Cherkinsky, A.R. Thompson, L. Newsom, and M. Savarese. 2016. From shell midden to midden-mound: The geoarchaeology of Mound Key, an anthropogenic island in southwest Florida, USA. *PLOS ONE* 11(4):e0154611. DOI:10.1371/journal.pone.0154611.

Vadala, J. and **S. Milbrath**. 2016. Using virtual reality to explore the emergence of astronomical knowledge at the Preclassic site of Cerros, Belize. *Journal of Skyscape Archaeology* 2(1):25-44.

Vargas-Fernández, I., **A.D Warren**, A. Luis-Martínez, and J.E. Llorente-Bousquets. 2016. Mariposas diurnas (Rhopalocera). pp. 170-191 and 366-375. In: *La Biodiversidad en Colima. Estudio de Estado*. CONABIO, México City, Mexico.

Visger, C.J., C.C. Germain-Aubrey, E.B. Sessa, **P.S. Soltis**, and **D.E. Soltis**. 2016. Niche divergence between diploid and autotetraploid *Tolmiea* *American Journal of Botany* 103:1-11.

Wallis, N.J. and **P.S. McFadden**. 2016. Recovering the forgotten mound excavations at Garden Patch (8DI4). *Southeastern Archaeology* 35:194-212. DOI:10.1080/0734578X.2015.1106211.

Wallis, N.J., Z.I. Gilmore, A.S. Cordell, T.J. Pluckhahn, K.H. Ashley, and M.D. Glascock. 2015. The ceramic ecology of Florida: Compositional baselines for pottery provenance studies. *Science and Technology of Archaeological Research* 1(2):29-48.

Wallis, N.J., P.S. McFadden, and **H.M. Singleton**. 2015. Radiocarbon dating the pace of monument construction and village aggregation at Garden Patch: A ceremonial center on the Florida Gulf Coast. *Journal of Archaeological Science: Reports* 2:507-516.

Warren, A.D., J.V. Calhoun, and B. Berthet. 2015. Notes on *Erynnis baptisiae* in Florida, documenting its widespread occurrence in northern peninsular counties, and a new larval foodplant (Lepidoptera: Hesperidae: Pyrginae). *News of the Lepidopterists' Society* 57(3):113.

Warren, A.D., D.R. Dolibaina, and N.V. Grishin. 2015. In limbo no longer: A new genus for a rare Amazonian skipper, *Telles pyrex* Evans, 1955 (Hesperidae: Hesperinae). *Tropical Lepidoptera Research* 25(2):46-51.

Warren, A.D., S. Nakahara, V. Lukhtanov, K.M. Daly, C.D. Ferris, N.V. Grishin, M. Cesanek, and J.P. Pelham. 2016. A new species of *Oeneis* from Alaska, United States, with notes on the *Oeneis chryxus* complex (Lepidoptera: Nymphalidae: Satyrinae). *Journal of Research on the Lepidoptera* 49:1-20.

Whiting, E.T., D.W. Steadman, and J. Krigbaum. 2016. Paleoeology of Miocene crocodylians in Florida: Insights from stable isotope analysis. *Palaeogeography, Palaeoclimatology, Palaeoecology* 451:23-34. DOI:org/10.1016/j.palaeo.2016.03.009.

Willmott, K.R. 2015. A new subspecies of *Cithaerias pyropina* (Salvin & Godman, 1868) from the Cordillera de Cutucú in southeastern Ecuador (Nymphalidae: Satyrinae). *Tropical Lepidoptera Research* 25:1-4.

Willmott, K.R., O.H.H. Mielke, and A.V.L. Freitas. 2016. A new subspecies and validation of the enigmatic species *Adelpha herbata* Weymer endemic to the Brazilian Atlantic forest (Nymphalidae: Limenitidinae). *Tropical Lepidoptera Research* 26:32-37.

Wright, N.A., **D.W. Steadman**, and C.C. Witt. 2016. Predictable evolution toward flightlessness in volant island birds. *Proceedings of the National Academy of Sciences, USA* 113(17):4765-4770. DOI:10.1073/pnas.1522931113.

Yurtseva, O.V., O.I. Kuznetsova, M.E. Mavrodieva, and **E.V. Mavrodiev**. 2016. What is *Atraphaxis* s. l. (Polygonaceae, Polygoneae): Cryptic taxa and resolved taxonomic complexity instead of the formal lumping and the lack of morphological synapomorphies. *PeerJ* 4:e1977. DOI:10.7717/peerj.1977.

Zermoglio, P., **R.P. Guralnick**, and J.R. Wiczkorek. 2016. A standardized reference data set for vertebrate taxon name resolution. *PLOS ONE* 11(1):e0146894. DOI:10.1371/journal.pone.0146894.

Zhong, M.*, **G.M. Hill**, **J.-P. Gomez**, **D. Plotkin**, J.R. Barber, and **A.Y. Kawahara**. 2016. Quantifying wing shape and size of saturniid moths with geometric morphometrics. *Journal of the Lepidopterists' Society* 70(2):99-107. *High-school student lead-author.



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Cover: Strawberry Urchin, *Chondrocidaris brevispina*. **Inside cover:** Museum Director Douglas Jones is pictured in front of Andrew Sledd Hall, named for UF's first president. The building connects with Thomas Hall, the Museum's first home on the UF campus. ©Florida Museum photos by Kristen Grace