



# 2016-2017 Annual Report

 FLORIDA  
MUSEUM™

## From the Director

---

***“After years of preparation and planning, the Museum initiated its centennial celebration in 2017, commemorating 100 years as Florida’s state museum of natural history.”***

Many exciting events marked the first half-year of our centenary, including a gala weekend in April; a 100th birthday party on May 30; and the dedication of our newest gallery - the *Beverly & Jon Thompson Discovery Zone* - geared toward our youngest visitors. Our yearlong celebration will conclude with an exhibition in Fall 2017 created by our staff - *Rare, Beautiful & Fascinating: 100 Years @FloridaMuseum*, and the presentation of the 2017 Archie F. Carr Medal to two of Archie’s star Ph.D. students, chelonian biologists Karen Bjorndal and Peter Pritchard. A commemorative anniversary volume, highlighting the Florida Museum’s most significant collection objects and outlining its storied history, will be published by the University Press of Florida in 2018 to cap our remarkable first century.

Even though special anniversary events consumed our collective attention this year, normal Museum activities did not suffer. The productivity metrics of our curators and collection staff, summarized in this report, remained exceptional. And on several fronts, the Florida Museum is leading the field. For example, we direct the National Science Foundation’s nationwide effort to digitize, share and utilize the vast amount of bio-collection data stored in our country’s museums. And our education and exhibition staff are experimenting with “Pop-Up Museums” as a way to turn the Museum inside out, taking objects and stories outside of the Museum walls to reach underserved sectors of our community.

The exceptional staff that lead these and other projects reinforces my opinion that our Florida Museum family remains our greatest institutional asset. Sadly we said goodbye to some dedicated, long-serving personnel this year like Dr. Susan Milbrath, Ann Cordell, Irv Quitmyer and Kenney Krysko. But we also made exciting new hires and many Museum faculty and staff garnered significant recognition. Most notably, Distinguished Professor of Botany and Molecular Genetics, Dr. Doug Soltis, was elected to the National Academy of Sciences, one of the highest accolades an American scientist can receive.

And I’m pleased to report that the Florida Museum has assumed a leadership role on the national museum scene. Associate Museum Director for Exhibits & Public Programs, Darcie MacMahon, was selected as President of the Southeastern Museums Conference. And I was fortunate to be selected as Board Chair of the American Alliance of Museums in Washington, D.C., the national association that represents all 30,000 museums in the nation and administers the museum accreditation program. These roles provide great visibility for the Florida Museum and an opportunity for us to keep our fingers on the pulse of the changing museum field as it evolves to meet the needs of 21st century audiences.

As our centennial year winds down, and I reflect on the completion of our first century, I believe the Florida Museum has grown into one of the great natural history museums in America, largely because of the dedicated professionals on our staff. This legacy of success, accomplishment and shared passion for our institutional mission gives me enormous optimism for the next 100 years.

Sincerely,



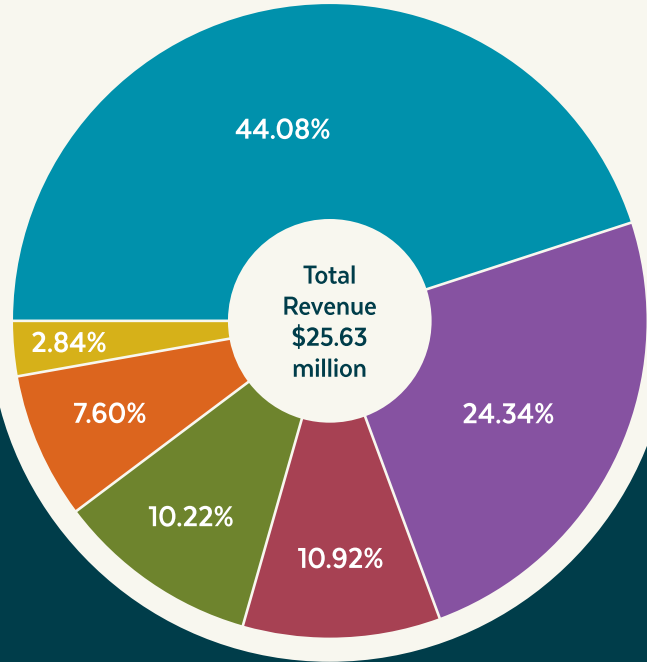
Douglas S. Jones, *Director*





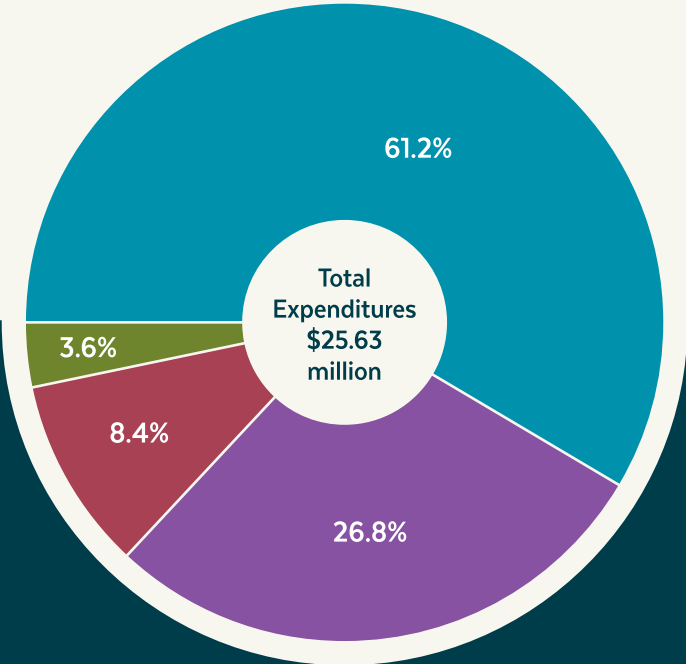






Revenue

|                      |                 |        |
|----------------------|-----------------|--------|
| UF/State allocation  | \$11.29 million | 44.08% |
| Grants and contracts | \$6.24 million  | 24.34% |
| Gifts                | \$2.80 million  | 10.92% |
| Other UF income      | \$2.62 million  | 10.22% |
| Earned income        | \$1.95 million  | 7.60%  |
| Endowment income     | \$0.73 million  | 2.84%  |
| Total                | \$25.63 million |        |



Expenditures

|                                  |                 |       |
|----------------------------------|-----------------|-------|
| Salaries and benefits            | \$15.68 million | 61.2% |
| Operating                        | \$6.87 million  | 26.8% |
| Overhead/other fees              | \$2.15 million  | 8.4%  |
| Transfers for future programming | \$0.93 million  | 3.6%  |
| Total                            | \$25.63 million |       |

Exhibits and Public Programs

The Museum offered a compelling mix of exhibitions and programs this year and experimented with new ways to broaden reach. As it marked the 100th anniversary, the Museum’s commitment to serving its many constituents has never been stronger.

More than 200,000 visitors enjoyed the ever-popular *Butterfly Rainforest* and other permanent exhibitions, along with a featured exhibition lineup that started with *Wicked Plants*, showcasing evildoers of the plant world, and ended with *Frogs! A Chorus of Colors*, featuring the fascinating world of frogs. Two new exhibits in a climate change series highlighted the impacts of changing climate on both sea level rise and human health. Other changing exhibits explored the little-known world of sea cucumbers, bark beetles, Andean and Mesoamerican cultures, and children’s natural history art. Museum exhibitions that traveled outside our walls included *Dugout Canoes: Paddling through the Americas*, which visited St. Augustine, and *Megalodon: Largest Shark that Ever Lived*, which toured to Ontario, Michigan and Georgia. In addition, we began installing an exciting new permanent exhibition – the *Discovery Zone*, designed to engage young children and their families.

The year also brought innovations in programming, both in the Museum and outside its walls. Now in its second year, the Pop-up Museum program hit the streets in the community and region. Museum staff and programs “popped up” at festivals, public parks and pools, libraries and more with topics such as fossils, pollinators and backyard biodiversity. Inside the Museum, we experimented with novel program formats to expand audiences in new ways, with topics such as a murder mystery, the nature behind Pokémon GO, Fantastic Beasts of the Florida Museum, a Froggy 5K, “Instameets” and citizen science frog monitoring workshops. To better serve K-12 youth, the Museum sponsored a second year of bringing all Alachua County fourth-graders to the Museum on a field trip, and conducted outreach to public school classrooms and a Museum Club after-school program. Other targeted audiences included scouts, Junior Volunteers and our first program for adults and children touched by autism. To expand inclusion efforts, the Museum hosted a bilingual family event with the Gainesville Latino Film Festival and joined the national Museums for All program, providing families with EBT cards greatly reduced adult admission and free admission for children.



## Collections and Research

The Department of Natural History had an outstanding year with faculty overseeing more than \$60 million in total external grant support for research and collection activities, including 65 new grants this fiscal year totaling \$6.3 million. This per-capita funding rate is extremely high, even for a research-intensive university like the University of Florida. Faculty and staff published 189 peer-reviewed books and journal articles, chaired 105 graduate committees and served on the graduate committees of another 166 students. In addition, 260 undergraduates and postdoctoral fellows received training in Museum labs and collections. Museum faculty and staff taught nearly 550 students in 35 courses through the departments of Anthropology, Biology, Entomology & Nematology, Geology, Wildlife Ecology & Conservation and others. They also oversaw 93 independent studies and research topics for students totaling another 470 credit hours.

Museum collections grew by 21,000 accessions totaling more than 329,000 new specimens and artifacts. Museum researchers hosted 940 scientific visitors and processed 495 loans of nearly 85,000 specimens. Most biological collections have transitioned to the new Specify Database system, which adds many new features for virtual visitors to the collections. We continue to add digital content, including images, sound recordings, 3-D scans and more to our collection databases.

This year we welcomed the new director of the Florida Program for Shark Research, Gavin Naylor. He studies the evolutionary history of elasmobranchs (sharks, skates and rays) and uses genetic tools to understand this part of the Tree of Life. He has already received two new grants for his work since his arrival at UF.

Curator of Southwest Florida Archaeology Bill Marquardt received the Lifetime Achievement Award at the Southeastern Archaeological Conference, and Curator of Paleobotany Steve Manchester was elected president of the International Organisation of Palaeobotany.

This year the Museum began celebrating its 100th anniversary as the state's official natural history museum. The Department of Natural History collaborated with Exhibits and Public Programs to develop the 100th Anniversary Exhibit highlighting rare and interesting specimens and artifacts from the Museum's vast collections. The exhibit, running through January 2018, contains a working lab staffed by curators and collection managers, to help the public see and understand the inner workings of the research and collection enterprise.

## Development

One of the Museum's highest priorities during its 100th anniversary year has been creating a special endowment fund that will support Exhibits and Public Programs. This endowment will consistently sustain efforts to engage the public and create exciting educational exhibits and programs for members and Museum visitors into the future. The Museum has secured more than \$1.5 million in gifts that will be matched with up to \$2 million from a generous anonymous donor.

An exciting development this year was construction of the Museum's newest permanent exhibit, the *Discovery Zone*, made possible by generous gifts from Beverly and Jon Thompson, the 1923 Fund, Museum Associates Board Members, state and county agencies and many loyal supporters of the Museum.

We sincerely thank our many friends and donors for partnering with us to make these dreams a reality.



**Opposite page:** Clockwise from top left, Jonathan Bloch, Jaret Daniels, Douglas S. Jones, Akito Kawahara, William Keegan, Michal Kowalewski, Bruce MacFadden, Darcie MacMahon, Steven Manchester, William Marquardt, Douglas Soltis and Neill Wallis

**Clockwise from above:** Doug Jones and Darcie MacMahon welcome guests during the Members preview of the *Discovery Zone* exhibit. Gavin Naylor was hired as the new director of the Florida Program for Shark Research. The Museum held its first 5K race, the Froggy 5K, during opening activities for the *Frogs! A Chorus of Colors* exhibit. ©Florida Museum photos by Kristen Grace and Jeff Gage.



## Florida Museum Special Achievements, Faculty and Staff

---

**Jonathan Bloch** received a University of Florida Term Professorship Award.

**Jaret Daniels** received a University of Florida Research Foundation Professorship Award.

**Douglas S. Jones** received the Lifetime Achievement Award from the Florida Association of Museums.

**Akito Kawahara** received a University of Florida Term Professorship Award.

**William Keegan** was named the Doris Stone Endowed Lecturer for the Archaeological Institute of America National Speakers Program.

**Michal Kowalewski** was appointed as a 2017-2018 Distinguished Speaker by the Paleontological Society Council.

**Bruce MacFadden** was selected as president-elect of The Paleontological Society.

**Darcie MacMahon** became president of the Southeastern Museums Conference.

**Steven Manchester** was elected president of the International Organisation of Palaeobotany.

**William Marquardt** received the Southeastern Archaeological Conference Lifetime Achievement Award.

**Douglas Soltis** was elected to the National Academy of Sciences.

**Neill Wallis** received a University of Florida Term Professorship Award.



# 2016 2017

## Impact by the Numbers

---



### Collections & Research

|         |   |
|---------|---|
| 189     | Peer-reviewed publications  |
| 940     | Scientific and other visitors to collections                            |
| 495     | Collection loans of 85,029 specimens and artifacts                      |
| 40+     | Million specimens and artifacts   |
| 65      | Grants and contracts worth \$6.28 million                               |
| 260     | Undergraduates and postdoctoral fellows working in collections          |
| 24      | Countries including the U.S. where Museum scientists conducted research |
| 19      | States including Florida where Museum scientists conducted research     |
| 21,274  | New Accessions to collections   |
| 329,633 | New specimens and artifacts cataloged                                   |

---

### Staff & Faculty Teaching

|     |                                  |
|-----|----------------------------------|
| 35  | Courses taught by Museum faculty |
| 105 | Graduate committees chaired      |
| 166 | Graduate committees served       |
| 93  | Independent Studies supervised   |

### Attendance & Outreach

|         |   |
|---------|---|
| 200,342 | Annual visitation   |
| 14,585  | School program participants   |
| 607     | K-6 camps and classes participants                                  |
| 97      | Teacher workshop attendees  |
| 17,014  | Public Programs attendees   |
| 34,152  | Hours donated by 553 volunteers                                     |
| 6,521   | News articles published with a potential viewership of 16.1 billion |
| 7,765   | School and Public Programs outreach participants                    |
| 5,980   | Pop-Up Museum visitors  |
| 83,394  | Visitors to Museum traveling exhibits at other venues               |
| 6.85    | Million Web page views  |
| 2.14    | Million Web page visits   |



**203,266** Pinterest followers



**25,713** Facebook likes



**7,015** Twitter followers



**1,108** YouTube subscribers



**2,788** Instagram followers

## AR Publications: 2016-2017

---

**Allen, J.M., B.M. Boyd,** N. Nguyen, P. Vachaspati, T. Warnow, D.I. Huang, P. Gero, K. Bell, Q. Cronk, L. Mugisha, B.R. Pittendrigh, M.S. Leonardi, **D.L. Reed,** and K.P. Johnson. 2017. Phylogenomics from Whole Genome Sequences using aTRAM. *Systematic Biology* SYW105. DOI:10.1093/sysbio/syw105.

An, J. and **G. Paulay.** 2017. A new genus and two new species of Argeiinae (Crustacea: Isopoda: Bopyridae) from the Indo-west Pacific. *Journal of Natural History* 51:405-420.

Aoyama, K., T. Inomata, D. Triadan, F. Pinzón, J.M. Palomo, J. MacLellan, and **A.E. Sharpe.** 2017. Early Maya ritual practices and craft production: Late Middle Preclassic ritual deposits containing obsidian artifacts at Ceibal, Guatemala. *Journal of Field Archaeology* 42:1-15.

Auerbach, P.S., **G.H. Burgess,** and A.E. DiTullio. 2017. Injuries from nonvenomous aquatic animals. pp. 1636-1678. *In:* Auerbach, P.S., T.A. Cushing, and N.S. Harris, eds. *Auerbach's Wilderness Medicine, 7th Edition.* Elsevier, Philadelphia, PA.

Baas, P., **S.R. Manchester,** E.A. Wheeler, and R. Srivastava. 2017. Fossil wood with dimorphic fibers from the Deccan Intertrappean Beds of India – the oldest fossil Connaraceae? *IAWA Journal* 38(1):124-133.

Baczynski, A.A., F.A. McInerney, S.L. Wing, M.J. Krause, **J.I. Bloch,** and R. Secord. 2017. Constraining paleohydrologic change during the Paleocene-Eocene Thermal Maximum in the continental interior of North America. *Palaeogeography, Palaeoclimatology, Palaeoecology* 465:237-246.

Bateman, C., Y.-T. Huang, D.R. Simmons, M.T. Kasson, **E.L. Stanley,** and J. Hulcr. 2017. Ambrosia beetle *Premnobius cavipennis* (Scolytinae: Ipini) carries highly divergent ascomycotan ambrosia fungus, *Afroraffaelea ambrosiae* gen. nov. sp. nov. (Ophiostomatales). *Fungal Ecology* 25:41-49.

**Blackburn, D.C., D.J. Paluh,** and **E.L. Stanley.** 2017. *Phrynobatrachus krefftii* (Krefft's Puddle frog). Anurophagy. *Herpetological Review* 48:413-414.

Bornschein, M.R., L.F. Ribeiro, **D.C. Blackburn, E.L. Stanley,** and M.R. Pie. 2016. A new species of *Brachycephalus* (Anura: Brachycephalidae) from Santa Catarina, southern Brazil. *PeerJ* 4:e2629.

**Bourque, J.R.** 2016. A Spotted turtle (Testudines, Emydidae) from the early Pleistocene (late Blancan) of north-central Florida. *Bulletin of the Florida Museum of Natural History* 55(2):39-50.





Bourque, S., V. Grandperret, S. Jeandroz, N. Lehotai, S. Aimé, **D.E. Soltis**, N.W. Miles, M. Melkonian, B. Surek, M.K. Deyholos, J.H. Leebens-Mack, M.W. Chase, C.J. Rothfels, D.W. Stevenson, S.W. Graham, X. Wang, S. Wu, J. Chris Pires, Patrick P. Edger, Z. Yan, Y. Xie, E.J. Carpenter, G.K.S. Wong, D. Wendehenne, and V. Nicolas-Francès. 2016. Type-2 HDACs: Their evolution through green plants. *Trends in Plant Science* 21(12):1008-1016.

**Boyd B.M., J.M. Allen**, N.P. Nguyen, P. Vachaspati, **Z.S. Quicksall**, T. Warnow, L. Mugisha, K.P. Johnson, and **D.L. Reed**. 2017. Primates, lice and bacteria: Speciation and genome evolution in the symbionts of hominid lice. *Molecular Biology and Evolution* 34(7):1743-1757.

Brandon, C.J and **A. Sourakov**. 2016. Evaluation of mechanical defense provided by pericarps of three different *Crotalaria* species to their seeds against a specialist herbivore, *Utetheisa ornatrix*: A case for a possible host-herbivore evolutionary arms race. *Tropical Lepidoptera Research* 26(2):85-92.

Brasier, A.T., **L.J. Cotton**, R.J. Garwood, J. Baker-Brian, E. Howlett, and M.D. Brasier. 2017. Earliest Cretaceous cocoons or plant seed structures from the Wealden Group, Hastings, UK. *Geological Society, London, Special Publications* 448(1):399-411.

**Breinholt, J.B.**, A. Lemmon, E. Lemmon, **L. Xiao, C. Earl**, and **A.Y. Kawahara**. 2017. Resolving relationships among the megadiverse butterflies and moths with a novel pipeline for Anchored Phylogenomics. *Systematic Biology* 2017. DOI:10.1093/sysbio/syx048.

Bryan, J.R., G.H. Means, and **R.W. Portell**. 2016. Large, shallow subtidal Stromatolites in the lower Miocene Chipola Formation at Alum Bluff, Liberty County, Florida. *Southeastern Geology* 52(2):79-102.

Bunkley, J., C. McClure, C.D. Fancis, **A.Y. Kawahara**, and J.R. Barber. 2017. Anthropogenic noise differentially affects arthropod family abundances. *Ecology and Evolution*. 7(9):2977-2985. DOI:10.1002/ece3.2698.

**Burgess, G.H.** 2017. Killing sharks won't protect surfers. *The Conversation*. Available from: <https://theconversation.com/culling-sharks-wont-protect-surfers-73801>.

**Burgess, G.H.** 2017. Sharkathon 2017 is here: How to watch it like a scientist. *The Conversation*. Available from: <https://theconversation.com/sharkathon-2017-is-here-how-to-watch-it-like-a-scientist-80370>.



Cai, S., G. Chen, Y. Wang, Y. Huang, **D.B. Marchant**, G. Jing, Y. Wang, Q. Yang, F. Dai, A. Hills, P.J. Franks, E. Nevo, **D.E. Soltis**, **P.S. Soltis**, E. Sessa, P. Wolf, D. Xue, G. Zhang, B.J. Pogson, and Z.-H. Chen. 2017. Evolutionary conservation of ABA signaling for stomatal closure in ferns. *Plant Physiology* 174(2):732-747. DOI:10.1104/pp.16.01848.

Campbell, J., J. O'Brian, J. Irvin, **C. Kimmel**, **J.C. Daniels**, and J. Ellis. 2017. Managed bumble bees (*Bombus impatiens*) caged with blueberry bushes at high density did not result in greater fruit set or fruit weight than an open-pollinated treatment. *Environmental Entomology* 46(2):237-242.

**Carvalho, A.P.S.**, A.G. Orr, and **A.Y. Kawahara**. 2017. A review of the occurrence and diversity of the sphragis in butterflies. *ZooKeys* 694:41-70.

**Chanderbali, A.S.**, B.A. Berger, D.G. Howarth, **D.E. Soltis**, and **P.S. Soltis**. 2017. Evolution of eudicot floral diversity: Genomics, genes and gamma. *Philosophical Transactions of the Royal Society of London B* 372(1713):20150509. DOI:10.1098/rstb.2015.0509.

Chazot, N., **K.R. Willmott**, F. Condamine, D.L. de Silva, A.V.L. Freitas, G. Lamas, H. Morlon, C.E. Giraldo, C.D. Jiggins, M. Joron, J. Mallet, S. Uribe, and M. Elias. 2016. Into the Andes: Multiple independent colonizations drive montane diversity in the Neotropical clearwing butterflies Godyridina. *Molecular Ecology* 25(22):5765-5784. DOI:10.1111/mec.13773.

Chen, Z.-D., A.-M. Lu, S.-Z. Zhang, Q.-F. Wang, Z.-J. Liu, D.-Z. Li, H. Ma, J.-H. Li, **D.E. Soltis**, **P.S. Soltis**, J. Wen, and the China Phylogeny Consortium. 2016. The Tree of Life: China project. *Journal of Systematics and Evolution* 54(4):273-276.

Chester, S.G.B., T. Williamson, **J.I. Bloch**, M.T. Silcox, and E. Sargis. 2017. Oldest skeleton of a plesiadapiform provides evidence for an exclusively arboreal radiation of stem primates in the Paleocene. *Royal Society Open Science* 4(5):170329.

**Ciccotto, P.J.** and **L.M. Page**. 2016. From 12 to one species: Variation in *Lobocheilos rhabdoura* (Fowler 1934) (Cyprinidae: Labeonini). *Copeia* 104:879-889.

**Ciccotto, P.J.** and **L.M. Page**. 2017. Comment on "On *Gonorynchus*, *Gonorhynchus*, *Gonorinchus*, *Gonorhynchus*, and *Gonorrhynchus*, and some other names of labeonine fishes (Teleostei: Gonorhynchidae and Cyprinidae)" by Kottelat (2016). *Zootaxa* 4226(3):447-448.

**Ciccotto, P.J.**, **J.M. Pfeiffer**, and **L.M. Page**. 2017. Revision of the cyprinid genus *Crossocheilus* (tribe Labeonini) with a description of a new species. *Copeia* 105(2):269-292.





**Cobb, C.R.** 2017. All Consuming Modernity. pp. 273–281. In: B.J. Heath, E.E. Breen, and L.A. Lee, eds. *Material Worlds: Archaeology, Consumption, and the Road to Modernity*. Routledge, New York.

**Cobb, C.R.** 2017. Commentary on “A political ecology of water and enslavement” by M.W. Hauser. *Current Anthropology* 58(2):245–246.

**Cobb, C.R.** and K.D. Stephenson. 2017. Cosmic debt and relational consumption. pp. 143–161. In: C.N. Cipolla, ed. *Materialities of Indigenous Consumption: Studying Foreign Things in American Archaeology*. University of Arizona Press, Tucson.

Cobb, N.R., **K.L. Krysko**, and J.M. Archer. 2016. Genetic confirmation of two nonnative species of Butterfly Lizards (Agamidae; *Leiolepis*) with established populations in Florida, USA. *Bulletin of the Florida Museum of Natural History* 8:131–137.

Collinson, M.E., N.F. Adams, **S.R. Manchester**, **G.W. Stull**, **F. Herrera**, S.Y. Smith, M.J. Andrew, P. Kenrick, and D. Sykes. 2016. X-ray micro-computed tomography (micro-CT) of pyrite-permineralized fruits and seeds from the London Clay Formation (Ypresian) conserved in silicone oil: A critical evaluation. *Botany* 94(9):697–711.

**Cordell, A.S.**, **N.J. Wallis**, and G. Kidder. 2017. Comparative clay analysis and curation for archaeological pottery studies. *Advances in Archaeological Practice* 5(1):93–106.

**Cotton, L.J.**, F. Vollrath, M.D. Brasier, and C. Dicko. 2017. Chemical relationships of ambers using attenuated total reflectance Fourier transform infrared spectroscopy. *Geological Society, London, Special Publications* 448(1):413–424.

**Crowl, A.**, **C. Myers**, and **N. Cellinese**. 2017. Embracing discordance: Phylogenetic analyses provide evidence for allopolyploidy leading to cryptic diversity in a Mediterranean *Campanula* (Campanulaceae) clade. *Evolution* 71(4):913–922. DOI: 10.1111/evo.13203.

Dalíková, M., M. Zrzavá, I. Hladová, I.P. Nguyen, I. Šonský, M. Flegrová, S. Kubíčková, A. Voleníková, **A.Y. Kawahara**, R.S. Peters, and F. Marec. 2017. New insight into the evolution of W chromosome in Lepidoptera. *Journal of Heredity* 2017:1–17.

de Casas, R.R., **P.S. Soltis**, M.E. Mort, and **D.E. Soltis**. 2016. The influence of habitat on the evolution of plants: A case study across Saxifragales. *Annals of Botany* 118(7):1317–1328.

De Silva, D.L., L. Mota, N. Chazot, R. Mallarino, K.L. Silva-Brandão, L.M. Gómez P., A.V.L. Freitas, G. Lamas, M. Joron, J. Mallet, C.E. Giraldo S., S.I. Uribe S., T. Särkinen, S. Knapp, C.D. Jiggins, **K.R. Willmott**, and M. Elias. 2017. North Andean origin and diversification of the largest ithomiine butterfly genus. *Scientific Reports* 7:45966. DOI:10.1038/srep45966.



deFrance, S.D., S.A. Wernke, and **A.E. Sharpe**. 2016. Conversion and persistence: Analysis of faunal remains from an early Spanish colonial doctrinal settlement in highland Peru. *Latin American Antiquity* 27(3):300–317.

Di Martino, E., P.D. Taylor, and **R.W. Portell**. 2017. Bryozoans from the lower Miocene Chipola Formation, Calhoun County, Florida, USA. *Bulletin of the Florida Museum of Natural History* 53(4):97–200.

Donovan, S.K., D.A.T. Harper, **R.W. Portell**, and J.K. Toomey. 2017. Echinoids as hard substrates: Varied examples from the Oligocene of Antigua, Lesser Antilles. *Proceedings of the Geologists' Association* 128(2017):326–331. <http://dx.doi.org/10.1016/j.pgeola.2017.04.003>.

**Earl, C., R.P. Guralnick**, and **A.Y. Kawahara**. 2017. Digest: Imperfect convergence in butterfly wing patterns. *Evolution* 71(4):1118–1119. DOI:10.1111/evo.13215.

**Emery, K.F.** 2017. Maya Zooarchaeology. pp. 606–630. In: U. Albarella, H. Russ, K. Vickers, and S. Viner-Daniels, eds. *The Oxford Handbook of Zooarchaeology*. Oxford University Press, UK.

**Emery, K.F.**, E.K. Thornton, **A.E. Sharpe**, **L. Duffy**, **P. Cunningham-Smith**, and **B. McIntosh**. 2016. Testing osteometric and morphological methods for turkey species determination in Maya faunal assemblages. *Journal of Archaeological Science: Reports* 10:607–631. DOI:10.1016/j.jasrep.2016.08.018.

**Fedler, M.T., K.L. Krysko**, and M.L. Avery. 2016. Molecular analysis confirming the introduction of the western African Fan-footed gecko, *Ptyodactylus togoensis* (Tornier 1901) (Phyllodactylidae), in Florida. *Reptiles & Amphibians: Conservation and Natural History* 23:183–186.

Freitas, A.V.L., L.M. Magaldi, and **K.R. Willmott**. 2016. A new subspecies of *Oleria gunilla* (Nymphalidae: Danainae) from north Mato Grosso, Brazil. *Journal of the Lepidopterists' Society* 70(4):295–301.

García, N., A.W. Meerow, S. Chamala, **M.A. Gitzendanner**, R. Souza de Oliveira, **D.E. Soltis**, and **P.S. Soltis**. Elucidating the diploid phylogeny of rain-lilies and allies (Amaryllidaceae tribe Hippeastreae) with multiple low-copy nuclear genes and whole chloroplast genomes. *Molecular Phylogenetics and Evolution* 111:231–247.

**Gardner, E.E.**, S.E. Walker, and L.I. Gardner. 2016. Palaeoclimate, environmental factors, and bird body size: A multivariable analysis of avian fossil preservation. *Earth-Science Reviews* 162:177–197. <https://doi.org/10.1016/j.earscirev.2016.07.001>.

**Gilbert, C.R.**, R.L. Mayden, and S.L. Powers. 2017. Morphological and genetic evolution in eastern populations of the *Macrhybopsis aestivalis* complex (Cypriniformes: Cyprinidae), with the descriptions of four new species. *Zootaxa* 4247(5):501–555.





Gillooly J.F., J.P. Gomez, and **E.V. Mavrodiev**. 2017. A broad-scale comparison of aerobic activity levels in vertebrates: Endotherms versus ectotherms. *Proceedings of the Royal Society B* 284(1849):1-7. DOI:10.1098/rspb.2016.2328.

**Grant, C.A., B.J. MacFadden**, P. Antonenko, and **V.J. Perez**. 2017. 3D fossils for K-12 education: A case example using the giant extinct shark *Carcharocles megalodon*. *Paleontological Society Papers* 22:197-209. DOI:https://doi.org/10.1017/scs.2017.15.

**Guralnick, R.P.**, P. Zermoglio, J. Wieczorek, R. LaFrance, D. Bloom, and L. Russell. 2016. The importance of digitized biocollections as a source of trait data and a new VertNet resource. *Database* 2016:1-13. DOI:10.1093/database/baw158.

Gurgel-Gonçalves, R., E.D. Komp, L.P. Campbell, A. Khalighifar, J. Mellenbruch, V.J. Mendonça, **H.L. Owens**, K. de la Cruz Felix, A.T. Peterson, and J.M. Ramsey. 2017. Automated identification of insect vectors of Chagas disease in Brazil and Mexico: The virtual vector lab. *PeerJ* 5:e3040.

Hallock and **R. Franz**. 2017. *Travels on the St. Johns River. John Bartram and William Bartram*. University Presses of Florida. 223 pp.

Harris-Parks, E., **A.S. Cordell**, and **N.J. Wallis**. 2017a. Weeden Island pottery production and exchange at the Palmetto Mound, 8LV2. *The Florida Anthropologist* 70(1-2):9-33.

Harris-Parks, E., **A.S. Cordell**, and **N.J. Wallis**. 2017b. Variability in Weeden Island vessel morphology at the Palmetto Mound, 8LV2 and comparison to the McKeithen site, 8CO17. *The Florida Anthropologist* 70(1-2):35-58.

**Hecht, K.A., M.A. Nickerson**, and P.B. Coleough. 2017. Hellbenders (*Cryptobranchus alleganiensis*) may exhibit an ontogenetic dietary shift. *Southeastern Naturalist* 16(2):157-162.

Heim, N.A., J.L. Payne, S. Finnegan, M.L. Knope, **M. Kowalewski**, S.K. Lyons, D.W. McShea, P.M. Novack-Gottshall, F.A. Smith, and S.C. Wang. 2017. Hierarchical complexity and the size limits of life. *Proceedings of the Royal Society B* 284:20171039. DOI:org/10.1098/rspb.2017.1039.

Hernandez-Baz, F., J.M. González, and **C.V. Covell Jr.** 2016. Notes on the behavior and distribution of the day-flying moth, *Heterusia atalanta* (Guenée, [1858]) (Lepidoptera, Geometridae, Larentiinae), with special reference to Mexico. *Journal of the Lepidopterists' Society* 70(4):283-288.

**Homziak, N., J. Breinholt**, and **A.Y. Kawahara**. 2016. A historical review of the classification of Erebiniae (Lepidoptera: Erebidae). *Zootaxa* 4189(3):516-542. DOI:10.11646/zootaxa.4189.3.4.



Huertas, B., G. Lamas, G. Fagua, J. Mallet, **S. Nakahara**, and **K.R. Willmott**. 2016. A remarkable new butterfly species from western Amazonia (Lepidoptera: Nymphalidae: Satyrinae). *Conservación Colombiana* 24:1-5.

Iannone, G., **S. Macrae**, and K. Hills (editors). 2016. Framing a comparative analysis of tropical civilizations: SETS Project - Phase 1 (Volume 2). *Trent University Occasional Papers in Anthropology*. Trent University, Peterborough.

Inomata, T., F. Pinzón, J.M. Palomo, **A.E. Sharpe**, R. Ortiz, M. Belén Méndez, and O. Román. 2017. Public ritual and inter-regional interactions: Excavations of the central plaza of Group A, Ceibal. *Ancient Mesoamerica* 28(1):203-232.

Johnson, K.L., A.M. Cassin, G.K.-S. Wong, A. Lonsdale, **D.E. Soltis**, N.W. Miles, M. Melkonian, B. Surek, M.K. Deyholos, J. Leebens-Mack, M.W. Chase, C.J. Rothfels, D.W. Stevenson, S.W. Graham, S. Joya, X. Wang, S. Wu, J.C. Pires, P.P. Edger, E.J. Carpenter, A. Bacic, M.S. Doblin, and C.J. Schultz. 2017. The hydroxyproline-rich glycoprotein gene family from 1000 plant transcriptomes as revealed by a novel motif and amino-acid bias (MAAB) bioinformatics pipeline. *Plant Physiology* 174(2):904-921. DOI:10.1104/pp.17.00295.

Johnston, G.R., **J.C. Mitchell**, E. Suarez, P.L. Butt, G.A. Shemitz, T. Morris, and R.L. Knight. 2016. The Santa Fe River in northern Florida: Effect of spatial heterogeneity of habitats on turtle populations. *Bulletin of the Florida Museum of Natural History* 54(5):69-103.

Jones, T.D., P. Magrill, M.W. Hefetz, **L.J. Cotton**, and P.N. Pearson. 2017. The contribution of micropalaeontology to the study of Bronze Age potters' workshops at Tel Lachish, Israel and the biostratigraphy of the Lachish area. pp. 177-198. In: M. Williams, T. Hill, I. Boomer, and I.P. Wilkinson, eds. *The Archaeological and Forensic Applications of Microfossils: A Deeper Understanding of Human History*. Geological Society for the Micropalaeontological Society.

Kapgate, D., **S.R. Manchester**, and W. Stuppy. 2017. Oldest fruit of Phyllanthaceae from the Deccan Intertrappean Beds of Singpur, Madhya Pradesh, India. *Acta Palaeobotanica* 57(1):33-38. DOI:10.1515/acpa-2017-0004.

**Kates, H.R., P.S. Soltis**, and **D.E. Soltis**. 2017. Evolutionary and domestication history among *Cucurbita* (pumpkin and squash) species inferred from 44 nuclear loci. *Molecular Phylogenetics and Evolution* 111:98-109.

Kehlmaier, C., A. Barlow, A.K. Hastings, M. Vamberger, J.L.A. Pajmans, **D.W. Steadman**, N.A. Albury, **R. Franz**, H. Hofreiter, and U. Fritz. 2017. Tropical ancient DNA reveals relationships of the extinct Bahamian Giant tortoise *Chelonoidis alburyorum*. *Proceedings of the Royal Society B* 284:1-8. DOI:org/10.1098/rspb.2016.2235.



**Kilmer, J.A.** and **D.W. Steadman**. 2016. A Middle Pleistocene bird community from Saint Lucie County, Florida. *Bulletin of the Florida Museum of Natural History* 55(1):1-38.

Kirkendale, L. and **G. Paulay**. 2017. Photosymbiosis in Bivalvia. Chapter 9. *In: Treatise of Invertebrate Paleontology. Treatise Online Part N, Revised*. 1(89): 1-31. DOI:<https://doi.org/10.17161/to.v0i0.6554>.

Kissling, W., J. Ahumada, A. Bowser, M. Fernandez, N. Fernández, E. Alonso García, **R.P. Guralnick**, N. Isaac, S. Kelling, W. Los, L. McRae, J.-B. Mihoub, M. Obst, M. Santamaria, A. Skidmore, K. Williams, et al. 2017. Building essential biodiversity variables (EBVs) of species distribution and abundance at a global scale. *Biological Reviews* 2017. DOI:10.1111/brv.12359.

Kleist, N., **R.P. Guralnick**, A. Cruz, and C. Francis. 2017. Sound settlement: Anthropogenic noise surpasses land cover in explaining distributions of secondary cavity nesting birds. *Ecological Applications* 27(1):260-273.

Klomp maker, A.A., **M. Kowalewski**, J.W. Huntley, and S. Finnegan. 2017. Escalation of predator-prey size ratios throughout the history of marine ecosystems. *Science* 356:1178-1180.

Klomp maker, A.A., **R.W. Portell**, and M.G. Frick. 2017. Comparative experimental taphonomy between eight marine arthropods indicates distinct differences in preservation potential. *Palaeontology* 2017:1-22. DOI:10.1111/pala.12314.

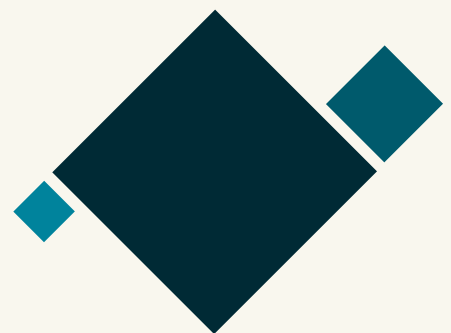
Koi, S. and **J.C. Daniels**. 2017. Variable life history and seasonal polyphenism in *Eumaeus atala*. *Florida Entomologist* 100(2):219-229.

Kosnik, M.A., Q. Hua, D. Kaufman, **M. Kowalewski**, and K. Whitacre. 2017. Radiocarbon-calibrated amino acid racemization ages from Holocene sand dollars (*Peronella peronii*). *Quaternary Geochronology* 39:174-188.

Kozuch, L., **K.J. Walker**, and **W.H. Marquardt**. 2017. Lightning Whelk Natural History and a New Sourcing Method. *Southeastern Archaeology*. 2017:1-15. <http://dx.doi.org/10.1080/0734578X.2017.1364959>

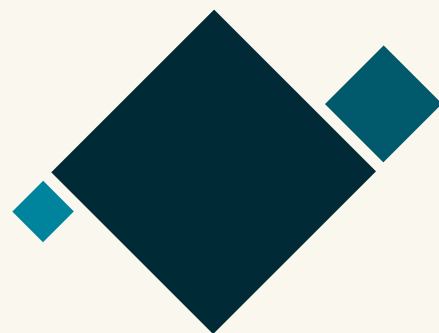
**Krisko, K.L.** and **L.A. Somma**. 2017. The status of two species of nonindigenous lizards in Florida, the Slender chameleon, *Chamaeleo gracilis* Hallowell 1842 and White-lined chameleon, *Furcifer lateralis* (Gray 1831): A corrigendum. *Reptiles & Amphibians* 24(1):65-66.

**Krisko, K.L.**, **L.A. Somma**, D.C. Smith, C.R. Gillette, D. Cueva, J.A. Wasilewski, K.M. Enge, S.A. Johnson, T.S. Campbell, J.R. Edwards, M.R. Rochford, R. Tompkins, J.L. Fobb, S. Mullin, D. Hazelton, and A. Warren. 2016. New verified nonindigenous amphibians and reptiles in Florida through 2015, with a summary of more than 152 years of introductions. *Reptiles & Amphibians* 23(2):110-143.





- Krisko, K.L., L.P. Nuñez**, C.E. Newman, and B.W. Bowen. 2017. Phylogenetics of kingsnakes, *Lampropeltis getula* complex (Serpentes: Colubridae), in eastern North America. *Journal of Heredity* 108:226–238. DOI:10.1093/jhered/esw086.
- Krisko, K.L.**, M.C. Granatosky, **L.P. Nuñez**, and D.J. Smith. 2016. A cryptic new species of Indigo snake (genus *Drymarchon*) from the Florida Platform of the United States. *Zootaxa* 4138:549–569.
- Lacey, E.A., T.T. Hammond, A.R. Mast, **R.P. Guralnick**, A. Monfils, J. McCormack, E. Ellwood, **P.S. Soltis**, **D.E. Soltis**, K. Bell, and J.A. Cook. 2017. Climate change, collections and the classroom: Using big data to tackle big problems. *Evolution: Education and Outreach* 10(2). DOI:10.1186/s12052-017-0065-3.
- Landis, J.B., **D.E. Soltis**, and **P.S. Soltis**. 2017. Comparative transcriptomic analysis of the evolution and development of flower size in *Saltugilia* (Polemoniaceae). *BMC Genomics* 18(1):475. DOI:10.1186/s12864-017-3868-2.
- Li, H.-L., W. Wang, R. Li, J. Zhang, M. Sun, R. Naeem, J. Su, X. Xiang, P.E. Mortimer, D.-Z. Li, K.D. Hyde, J.-C. Xu, **D.E. Soltis**, **P.S. Soltis**, J. Li, S.-Z. Zhang, H. Wu, Z.-D. Chen, and A.-M. Lu. 2016. Global versus Chinese perspectives on the phylogeny of the N-fixing clade. *Journal of Systematics and Evolution* 54:392–399.
- Liu, X.**, W. Mei, **P.S. Soltis**, **D.E. Soltis**, and W.B. Barbazuk. 2017. An alternative splicing de novo detection pipeline based on single-molecule long-read isoforms, using *Amborella trichopoda* as a case study. *Molecular Ecology Resources* 2017. DOI:10.1111/1755-0998.12670.
- Liufu, Y., Y. Chen, and **H. Wang**. 2017. A new species of *Chaneya* from the Oligocene Ningming Formation, Guangxi, South China. *Review of Palaeobotany and Palynology* 244:148–152. DOI:10.1016/j.revpalbo.2017.05.005.
- Livingood, P.C. and **A.S. Cordell**. 2017. Point/counter point II: the Accuracy and feasibility of digital image techniques in the analysis of pottery tempers using sherd edges. pp. 196–214. In: M.F. Ownby, I.C. Druc, and M.A. Masucci, eds. *Integrative Approaches in Ceramic Petrography*. University of Utah Press.
- MacFadden, B.J.** 2017. Vertebrate paleontology at the Florida Museum of Natural History, University of Florida: The past 60 years of research and education. *Bulletin of the Florida Museum of Natural History* 55(3):51–87.
- MacFadden, B.J.** and **R.P. Guralnick**. 2017. Horses in the Cloud: Big data exploration and mining of fossil and extant *Equus* (Mammalia: Equidae). *Paleobiology* 43:1–14. DOI:10.1017/pab.2016.42.



- MacFadden, B.J., D.S. Jones, N.A. Jud, J.W. Moreno-Bernal, G.S. Morgan, R.W. Portell, V.J. Perez, S.M. Moran, and A.R. Wood.** 2017. Integrated chronology, flora and faunas, and paleoecology of the Alajuela Formation, late Miocene of Panama. *PLOS ONE* 12(1):e0170300. DOI:10.1371/journal.pone.0170300.
- Macrae, S.** and G. Iannone. 2016. Understanding ancient Maya agricultural terrace systems through LiDAR and hydrological mapping. *Advances in Archaeological Practices* 4(3):371-392.
- Majure, L.C., W.S. Judd, **P.S. Soltis**, and **D.E. Soltis**. 2016. Taxonomic revision of the *Opuntia humifusa* complex (Opuntieae: Cactaceae) of the eastern United States. *Phytotaxa* 290(1):1-65.
- Manchester, S.R.**, M.E. Collinson, C. Soriano, and D. Sykes. 2017. Homologous fruit characters in geographically separated genera of extant and fossil Torricelliaceae (Apiales). *International Journal of Plant Sciences* 178(7).
- Marchant, D.B., D.E. Soltis**, and **P.S. Soltis**. 2016. Patterns of abiotic niche shift of polyploids relative to their progenitors. *New Phytologist* 212:708-718. DOI:10.1111/nph.14069.
- Mavrodiev, E.V.** 2016. Dealing with propositions, not with the characters: The ability of three-taxon statement analysis to recognise groups based solely on 'reversals', under the maximum-likelihood criteria. *Australian Systematic Botany* 29(2):119-125. DOI:10.1071/SB16006.
- Mayor, S.J., R.P. Guralnick**, M.W. Tingley, J. Otegui, J.C. Withey, S.C. Elmendorf, M.E. Andrew, S. Leyk, I.S. Pearse, and D.C. Schneider. 2017. Earlier spring green-up leads to increasing phenological asynchrony in migratory birds. *Scientific Reports* 7:1902.
- Mendes, N.J., V.P. Cruz, F.Y. Ashikaga, S.M. Camargo, C. Oliveira, A.N. Piercy, **G.H. Burgess**, R. Coelho, M.N. Santos, F.F. Mendonça, and F. Foresti. 2016. Microsatellite loci in the Tiger shark and cross-species amplification using pyrosequencing technology. *PeerJ* 4:e2205. DOI:10.7717/peerj.22052016.
- Menke, M., P.S. Peram, I. Starnberger, W. Hödl, **G.F.M. Jongsma**, **D.C. Blackburn**, M.-O. Rödel, M. Vences, and S. Schulz. 2016. Identification, synthesis and mass spectrometry of a macrolide from the African Reed frog *Hyperolius cinnamomeoventris*. *Beilstein Journal of Organic Chemistry* 12:2731-2738.
- Milanich, J.T.** 2017. *Handfuls of History—Stories of Florida's Past*. Cocoa. Florida Historical Society Press, Cocoa, FL.
- Milbrath, S.** 2016. Seasonal images in the art of central Mexico. pp. 163-183. In: A. Finegold and E. Hoobler, eds. *Visual Culture of the Ancient Americas: Contemporary*. University of Oklahoma Press, Norman.



**Milbrath, S.** 2017. Eclipse imagery on the Aztec calendar stone. *Mexicon* 39(1):16–26.

**Milbrath, S.** 2017. The role of solar observation in developing the Preclassic Maya calendar. *Latin American Antiquity* 28(1):88–104.

Miller, A., A. Kerr, **G. Paulay**, M. Reich, J. Carvajal, N. Wilson, and G. Rouse. 2017. Molecular phylogeny of extant Holothuroidea (Echinodermata). *Molecular Phylogenetics and Evolution* 111:110–131.

**Mitchell, J.C.** 2017. The New Kent County, Virginia Timber rattlesnake (*Crotalus horridus*) locality is invalid. *Catesbeiana* 37(1):40–41.

**Mitchell, J.C.**, and S. Foertmeyer. 2017. *Terrapene carolina carolina* (Eastern Box turtle). Clutch frequency. *Herpetological Review* 48(1):86.

**Moore, J.M.**, E. Nishi, and G.W. Rouse. 2017. Phylogenetic analyses of Chaetopteridae (Annelida). *Zoologica Scripta* 46:596–610.

Morin, E., E. Ready, **A. Boileau**, C. Beauval, and M.-P. Coumont. 2017. Problems of identification and quantification in archaeozoological analysis, part I: Insights from a blind test. *Journal of Archaeological Method and Theory* 24(3):886–937.

Morin, E., E. Ready, **A. Boileau**, C. Beauval, and M.-P. Coumont. 2017. Problems of identification and quantification in archaeozoological analysis, part II: Presentation of an alternative counting method. *Journal of Archaeological Method and Theory* 24(3):938–973.

**Nakahara, S., D. Tan**, G. Lamas, **A. Parus, K.R. Willmott**. 2016. A distinctive new species of *Hermeuptychia* Forster, 1964 from the eastern tropical Andes (Lepidoptera: Nymphalidae: Satyrinae). *Tropical Lepidoptera Research* 26:77–84.

**Nakahara, S.**, G. Vega, and **K.R. Willmott**. 2016. Description of a new species of *Euptychia* Hübner, 1818 (Lepidoptera: Nymphalidae: Satyrinae) from the western Andes. *Zootaxa* 4184:358–366. DOI:10.11646/zootaxa.4184.2.7.

**Nickerson, M.A.**, A.L. Pitt, J.J. Tavano, **K.A. Hecht**, and **J.C. Mitchell**. 2017. Forest removal: A major factor in the decline of hellbender populations. *Bulletin of the Florida Museum of Natural History* 54(10):147–164.

**Nuñez, L.P., K.L. Krysko**, and M.L. Avery. 2016. Confirmation of introduced *Agama picticauda* in Florida based on molecular analyses. *Bulletin of the Florida Museum of Natural History* 8:138–146.

Nyffeler, M., G.B. Edwards, and **K.L. Krysko**. 2017. A vertebrate-eating jumping spider (Araneae: Salticidae) from Florida, USA. *Journal of Arachnology* 45:238–241.





O'Loughlin, P.M., C. Harding, and **G. Paulay**. 2016. The sea cucumbers of Camden Sound in northwest Australia, including four new species (Echinodermata: Holothuroidea). *Memoirs of Museum Victoria* 75:7-52.

**Oswald, J.A.**, I. Overcast, W.M. Mauck III, M.J. Andersen, and B.T. Smith. 2017. Isolation with asymmetric gene flow during the nonsynchronous divergence of dry forest birds. *Molecular Ecology* 26:1386-1400. DOI:10.1111/mec.14013.

**Oswald J.A.**, M.G. Harvey, R.C. Remsen, D.U. Foxworth, S.W. Cardiff, D.L. Dittmann, L. Megna, M.D. Carling, and R.T. Brumfield. 2016. Willet be one species or two?: A genomic view of the evolutionary history of *Tringa semipalmata*. *The Auk: Ornithological Advances* 133:593-614. DOI:10.1642/AUK-15-232.1.

Palis, J.G., J.A. Sellar, and **J.C. Mitchell**. 2016. *Terrapene carolina* (Eastern Box turtle). Diet. *Herpetological Review* 47(4):657.

Pampush, J.D., J.P. Spradley, **P.E. Morse**, A.R. Harrington, K.L. Allen, D.M. Boyer, and R.F. Kay. 2016. Wear and its effects on dental topography measures in Howling monkeys (*Alouatta palliata*). *American Journal of Physical Anthropology* 161:705-721.

Pastore, J.F.B., J.R. Abbott, K.M. Neubig, **W.M. Whitten**, R.B. Mascarenhas, M.C. Almeida Mota, and C. van den Berg. 2017. A molecular phylogeny and taxonomic notes in *Caamembeca* (Polygalaceae). *Systematic Botany* 42(1):54-62.

Pauli, J.N., S.D. Newsome, J.A. Cook, C. Harrod, S.A. Steffan, C.J.O. Baker, M. Ben-David, D. Bloom, G.J. Bowen, T.E. Cerling, C. Cicero, C. Cook, M. Dohm, P.S. Dharampal, G. Graves, R. Gropp, K.A. Hobson, C. Jordan, **B.J. MacFadden**, S.P. Birch, J. Poelen, S. Ratnasingham, L. Russell, C.A. Stricker, M.D. Uhen, C.T. Yarnes, and B. Hayden. 2017. Why we need a centralized repository for isotopic data. *Proceedings of the National Academy of Sciences* 114:2997-3001.

**Perez, V.**, C. Pimiento, A. Hendy, G. González-Barba, G. Hubbell, and **B.J. MacFadden**. 2017. Late Miocene chondrichthyans from Lago Bayano, Panama: Functional diversity, environment, and biogeography. *Journal of Paleontology* 91(3):512-547. DOI:<https://doi.org/10.1017/jpa.2017.5>.

Pitt, A.L., J.J. Tavano, and **M.A. Nickerson**. 2016. *Cryptobranchus alleganiensis bishopi* (Ozark Hellbender): Larval habitat and retreat behavior. *The Herpetological Bulletin* 138:36-37.

Pluckhahn, T.J. and **N.J. Wallis**. 2017. Social networks and networked scholars: An open-access database of paddle designs from pottery of the Woodland Period in the American southeast. *Advances in Archaeological Practice* 5(2):159-169.



Portik, D.M., **G.F.M. Jongsma**, **M.T. Kouete**, L.A. Scheinberg, B. Freiermuth, W.P. Tapondjou, and **D.C. Blackburn**. 2016. A survey of amphibians and reptiles in the foothills of Mount Kupe, Cameroon. *Amphibian & Reptile Conservation* 10:37-67.

**Reeves, L.E.**, C.J. Holderman, J.L. Gillett-Kaufman, **A.Y. Kawahara**, and P.E. Kaufman. 2016. Maintenance of host DNA integrity in field-preserved mosquito (Diptera: Culicidae) blood meals for identification by DNA barcoding. *Parasites and Vectors* 9(1):503. DOI:10.1186/s13071-016-1791-z.

Ribeiro, L. F., **D.C. Blackburn**, **E.L. Stanley**, M.R. Pie, and M.R. Bornschein. 2017. Two new species of the *Brachycephalus pernix* group (Anura: Brachycephalidae) from the state of Paraná, southern Brazil. *PeerJ* 5:e3603.

**Rojas, A.**, P. Patarroyo, L. Mao, P. Bengtson, and **M. Kowalewski**. 2017. Global biogeography of Albian ammonoids: A network-based approach. *Geology* 45:659-662. DOI:10.1130/G38944.1.

**Rojas, A.**, **R.W. Portell**, and **M. Kowalewski**. 2017. The post-Palaeozoic fossil record of drilling predation on lingulide brachiopods. *Lethaia* 50(2):296-305. DOI:10.1111/let.12198.

Sahoo, R.K., **A.D. Warren**, N. Wahlberg, A.V.Z. Brower, V.A. Lukhtanov, and U. Kodandaramaiah. 2016. Ten genes and two topologies: An exploration of higher relationships in skipper butterflies (Hesperiidae). *PeerJ* 4:e2653. DOI:10.7717/peerj.2653.

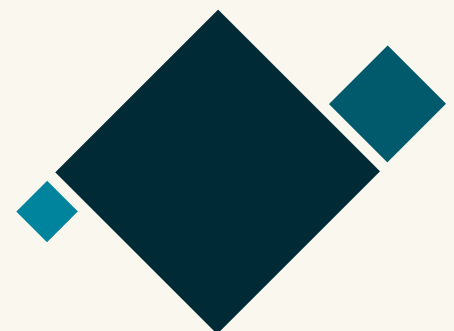
Sanchez-Martinez, M.A., S. David, G.A. Londono, and **S.K. Robinson**. 2017. Brood parasitism by the enigmatic and rare Pavonine Cuckoo in Amazonian Peru. *Auk* 134:330-339.

Savarese, M., **K.J. Walker**, S. Stingu, **W.H. Marquardt**, and V. Thompson. 2016. The effects of shellfish harvesting by aboriginal inhabitants of southwest Florida (USA) on productivity of the Eastern oyster (*Crassostrea virginica*): Implications for estuarine management and restoration. *Anthropocene* 16:28-41. <http://dx.doi.org/10.1016/j.ancene.2016.10.002>.

Scarponi, D., M. Azzarone, **K. Kusnerik**, A. Amorosi, K.M. Bohacs, T.M. Drexler, and **M. Kowalewski**. 2017. Systematic vertical and lateral changes in quality and time resolution of the macrofossil record: Insights from Holocene transgressive deposits, Po coastal plain, Italy. *Marine and Petroleum Geology* 2017. DOI:10.1016/j.marpetgeo.2017.03.031.

Scott, T.M., G.H. Means, and **R.W. Portell**. 2016. Geology and paleontology of the Ocala limestone exposed in the Cemex Center Hill Quarry, Sumter County, FL. *Southeastern Geological Society, Field Trip Guidebook* 69:1-18.

Seltmann, K.C. ...**A.Y. Kawahara**... et al. 2017. LepNet: The lepidoptera of North America network. *Zootaxa* 4241(1):73-77. DOI:10.11646/zootaxa.4241.1.10.



**Sharpe, A.E.**, G.D. Kamenov, A. Gilli, D.A. Hodell, **K.F. Emery**, M. Brenner, and J. Krigbaum. 2016. Lead (Pb) isotope baselines for studies of ancient human migration and trade in the Maya region. *PLOS ONE* 11(11):e0164871.

Silcox, M.T., **J.I. Bloch**, D.M. Boyer, S.G.B. Chester, and S. Lopez-Torres. 2017. The evolutionary radiation of Plesiadapiforms. *Evolutionary Anthropology: Issues, News, and Reviews* 26:74–94.

**Slapcinsky, J.D.** and F. Kraus. 2016. Revision of Partulidae (Gastropoda, Stylommatophora) of Palau, with description of a new genus for and unusual ground-dwelling species. *ZooKeys* 614:27–49.

**Soltis, D.E.** and **P.S. Soltis**. 2017. Mobilizing and integrating big data in studies of spatial and phylogenetic patterns of biodiversity. *Plant Diversity* 38(2016):264–270.

**Soltis, D.E.** and C.J. Visger. 2016. Polyploid speciation. *Oxford Bibliographies in Evolutionary Biology* 2016. DOI:10.1093/obo/9780199941728-0084.

**Soltis, D.E.** and W.S. Judd. 2017. Peter F. Stevens – Recipient of the 2016 Asa Gray Award. *Systematic Botany* 42(1).

**Somma, L.A.**, **K.L. Krysko**, and L.L. Connor. 2017. Geographic distribution: *Acrantophis dumerili* (Duméril's Madagascan Ground Boa). USA. Florida. *Herpetological Review* 48(1):127.

Soto-Centeno, J.A., N.B. Simmons, and **D.W. Steadman**. 2017. The bat community of Haiti and evidence for its long-term persistence at high elevations. *PLOS ONE* 12(6):e0178066. DOI:10.1371/journal.pone.0178066.

**Sourakov, A.** 2017. Studying Lepidoptera in different lights. *News of the Lepidopterists' Society* 59(2):96–101.

**Sourakov, A.** and H. Alborn. 2017. On the evolutionary arms-race between the moth *Utetheisa ornatrix* (Erebidae: Arctiinae) and its Florida host, *Crotalaria pumila* (Fabaceae): Chemical attraction and mechanical defense. *Tropical Lepidoptera Research* 27(1):16–18.

**Sourakov, A.** and **P.R. Houlihan**. 2017. Note on nocturnal activity of a skipper, *Pseudonascus paullinae*, in French Guiana. *Tropical Lepidoptera Research* 27(1):26–27.

Spradley, J.P., J.D. Pampush, **P.E. Morse**, and R.F. Kay. 2017. Smooth operator: The effects of different 3D mesh retriangulation protocols on the computation of Dirichlet normal energy. *American Journal of Physical Anthropology* 163:94–109.





**St. Laurent, R.A.** 2016. Revisions of the genera *Lurama* Schaus, 1928 and *Ulmara* Schaus, 1928 (Lepidoptera, Mimallonoidea, Mimallonidae) with the descriptions of three new *Ulmara* species and a new genus. *ZooKeys* 611:57-92. DOI:<https://doi.org/10.3897/zookeys.611.9058>.

**St. Laurent, R.A.** 2017. Notes on Mimallonidae (Lepidoptera: Mimallonoidea, Mimallonidae) of the Neotropical Pacific coast, with the descriptions of two new species of *Cicinnus* Blanchard, 1852. *Nachrichten des entomologischen Vereins Apollo* 38(1):23-27.

**St. Laurent, R.A.** and **A.P.S. Carvalho.** 2017a. Report of diurnal activity in Mimallonoidea with notes on the sexual behavior of *Lacosoma chiridota* Grote, 1864. *Journal of the Lepidopterists' Society* 71(1):12-15.

**St. Laurent, R.A.** and **A.P.S. Carvalho.** 2017b. A new genus of Andean Mimallonidae (Mimallonoidea), with the descriptions of four new species. *Journal of the Lepidopterists' Society* 71(2):92-108.

**St. Laurent, R.A.** and D. Herbin. 2017. Revision of the genus *Vanenga* Schaus, 1928 (Lepidoptera, Mimallonoidea, Mimallonidae) with the description of a new species. *ZooKeys* 644:89-104. DOI:<https://doi.org/10.3897/zookeys.644.10705>.

**St. Laurent, R.A.** and M.T. Cock. 2017. Annotated list of Mimallonidae (Lepidoptera, Mimallonoidea) from Trinidad and Tobago, with the description of a new species of *Cicinnus* Blanchard, 1852 and taxonomic notes. *Zootaxa* 4268(1):53-70. DOI:<https://doi.org/10.11646/zootaxa.4268.1.3>.

**St. Laurent, R.A.** and T. McCabe. 2017. The identity of *Arhodia egenaria* Walker, 1866 (Lepidoptera, Mimallonoidea, Mimallonidae) and a new synonym of *Cicinnus melsheimeri* (Harris, 1841). *Zootaxa* 4254(3):379-381. DOI:<https://doi.org/10.11646/zootaxa.4254.3.7>.

**St. Laurent, R.A.**, D. Herbin, and C.G.C. Mielke. 2017a. Revision of the genus *Tarema* Schaus, 1896 (Lepidoptera, Mimallonoidea, Mimallonidae) with the description of a new species from southeastern Brazil. *ZooKeys* 646:119-137. DOI:<https://doi.org/10.3897/zookeys.646.10897>.

**St. Laurent, R.A.**, D. Herbin, and C.G.C. Mielke. 2017b. Revision of the genus *Reinmara* Schaus, 1928 (Lepidoptera, Mimallonoidea, Mimallonidae) with the descriptions of four new species from South America. *ZooKeys* 677:97-129. DOI:<https://doi.org/10.3897/zookeys.677.12435>.

**St. Laurent, R.A.**, D.L. Wagner, **L.E. Reeves**, and **A.Y. Kawahara.** 2017. Notes on the larva and natural history of *Lacosoma arizonicum* Dyar (Mimallonoidea, Mimallonidae) with new host and parasitoid records. *Journal of the Lepidopterists' Society* 71(3):277-181.



**Steadman, D.W.** and **B.J. MacFadden**. 2016. An early Miocene eagle (Aves: Accipitridae) from Panama. *Journal of Paleontology* 90(5):1012-1015. DOI:10.1017/jpa.2016.103.

**Steadman, D.W.** and J. Franklin. 2017. Origin, paleoecology and extirpation of bluebirds and crossbills in the Bahamas across the last glacial-interglacial transition. *Proceedings of the National Academy of Sciences, USA* 2017. DOI:10.1073.pnas.1707660114.

**Steadman, D.W.**, H.M. Singleton, K.L. Delancy, N.A. Albury, J.A. Soto-Centeno, **H. Gough**, N. Duncan, J. Franklin, and **W.F. Keegan**. 2017. Late Holocene historical ecology: The timing of vertebrate extirpation on Crooked Island, The Bahamas. *Journal of Island and Coastal Archaeology* 2017:1-13. DOI:10.1080/15564894.2017.1305469.

Steinhauser, S.R., **J.Y. Miller**, and N. Grishin. 2017. Review of the West Indian *Astraptes xagua* (Lucas) complex (Hesperiidae: Eudaminae) with the description of a new subspecies from the Bahamas. *Journal of the Research on the Lepidoptera* 49:81-90.

Stock, M.K., A.P. Winburn, and **G.H. Burgess**. 2017. Skeletal indicators of shark feeding on human remains: Evidence from Florida forensic anthropology cases. *Journal of Forensic Sciences* 2017:1-8. DOI:10.1111/1556-4029.13470.

Stockdale Walden, H.D., **J.D. Slapcinsky**, S. Roff, J. Mendieta Calle, Z. Diaz Goodwin, J. Stern, et al. 2017. Geographic distribution of *Angiostrongylus cantonensis* in wild rats (*Rattus rattus*) and terrestrial snails in Florida, USA. *PLOS ONE* 12(5):e0177910. <https://doi.org/10.1371/journal.pone.0177910>.

Stringer, G.L., **R.C. Hulbert Jr.**, D. Nolf, P. Roth, and **R.W. Portell**. 2017. A rare occurrence of matched otoliths and associated skeletal remains of *Apogon townsendi* (Osteichthyes) from the Caloosahatchee Formation (lower Pleistocene) of Florida. *Bulletin of the Florida Museum of Natural History* 55(4):89-103.

**Stull, G.W.**, N.F. Adams, **S.R. Manchester**, D. Sykes, and M.E. Collinson. 2016. Revision of Icacinaceae from the Early Eocene London Clay flora based on X-ray micro-CT 1. *Botany* 94(9):713-745.

Thom, M.D. and **J.C. Daniels**. 2017. Patterns of microhabitat and larval host-plant use by an imperiled butterfly in northern Florida. *Journal of Insect Conservation* 21(1):39-52.

Thornton, E.K. and **K.F. Emery**. 2016. Animal remains from El Mirador. *Archaeofauna* 26:167-198.

Thornton, E.K., **K.F. Emery**, and C. Speller. 2016. Ancient Maya turkey husbandry: Testing theories through stable isotope analysis. *Journal of Archaeological Science: Reports* 10:584-595. DOI:10.1016/j.jasrep.2016.05.011.



Tyler, C.T. and **M. Kowalewski**. 2017. Surrogate taxa and fossils as reliable proxies of spatial biodiversity patterns in marine benthic communities. *Proceedings of the Royal Society B* 284:20162839. <http://dx.doi.org/10.1098/rspb.2016.2839>.

**Vitek, N.S., C.L. Manz**, T.R. Gao, **J.I. Bloch**, S.G. Strait, and D.M. Boyer. 2017. Semi-supervised determination of pseudocryptic morphotypes using observer-free characterizations of anatomical alignment and shape. *Ecology & Evolution* 7(14):5041-5055.

**Vitek, N.S.**, I.G. Danilov, Y. Nakajima, and R. Hirayama. 2017. Redescription of the skull of “*Trionyx*” *kyrgyzensis* and improved phylogenetic taxon sampling of Cretaceous and Paleogene soft-shelled turtles (Trionychidae) of Asia, including the oldest crown trionychids. *Journal of Systematic Palaeontology* 2017:1-13.

**Vitek, N.S.**, J.D. Austin, and **J.I. Bloch**. 2017. Long-term association between the commensal *Podomys floridanus* and *Gopherus polyphemus* in the fossil record of Florida. *Bulletin of the Florida Museum of Natural History* 55:105-116.

**Wallis, N.J.** 2016. Climate change and ritual intervention? An enigmatic sinkhole pond and the end of Cades Pond Culture. *The Florida Anthropologist* 69(3):89-110.

**Wallis, N.J., A.S. Cordell**, E. Harris-Parks, M.C. Donop, and K. Hall. 2017. Provenance of Weeden Island “sacred” and “prestige” vessels: Implications for specialized ritual craft production. *Southeastern Archaeology* 36(2):131-143.

**Wallis, N.J.**, T.J. Pluckhahn, and M.D. Glascock. 2016. Sourcing interaction networks of the American southeast: NAA of Swift Creek complicated stamped pottery. *American Antiquity* 81(4):717-736.

**Warren, A.D.** and N.V. Grishin. 2017. A new species of *Oxynetra* from Mexico (Hesperiidae: Pyrginae: Pyrrhopygini). *ZooKeys* 667:155-164.

Weirauch, C., K.C. Seltmann, R.T. Schuh, M.D. Schwartz, C. Johnson, M.A. Feist, and **P.S. Soltis**. 2017. Areas of endemism in the Nearctic: A case study of 1339 species of Miridae (Insecta: Hemiptera) and their plant hosts. *Cladistics* 33:279-294.

Wheeler, E.A., R. Srivastava, **S.R. Manchester**, and P. Baas. 2017. Surprisingly modern Latest Cretaceous– earliest Paleocene woods of India. *International Association of Wood Anatomists Journal* 38(4):456-542.

Whiting, E.T. and **K.L. Krysko**. 2017. *Osteopilus septentrionalis* (Cuban treefrog) and *Lithobates grylio* (Pig frog): Interspecific amplexus. *Herpetological Review* 48:167.





Whiting, E.T., **D.W. Steadman**, and K.A. Vliet. 2016. Cranial polymorphism and systematics of Miocene and living *Alligator* in North America. *Journal of Herpetology* 50:306-315. DOI:10.1670/15-023.

**Willmott, K.R.**, G. Lamas, and J.P.W. Hall. 2017. Notes on the taxonomy of *Actinote intensa* Jordan (Lepidoptera: Nymphalidae: Heliconiinae) and the description of a new sibling species from eastern Ecuador. *Tropical Lepidoptera Research* 27(1):6-15.

**Willmott, K.R.**, J.C. Robinson Willmott, M. Elias, and C. Jiggins. 2017. Maintaining mimicry diversity: Optimal warning color patterns differ among microhabitats in Amazonian clearwing butterflies. *Proceedings of the Royal Society B* 284:20170744. DOI:10.1098/rspb.2017.0744.

**Willmott, K.R.**, M. Simon, **E. Ortiz-Acevedo**, and J.P.W. Hall. 2017. First record of the enigmatic tribe Anaeomorphini (Lepidoptera, Nymphalidae, Charaxinae) outside of the Amazon basin: A new species of *Anaeomorpha* Rothschild, 1894, from the Chocó region of western Ecuador. *Insecta Mundi* 0548:1-10.

Yu, X.-Q., L.-M. Gao, **D.E. Soltis**, **P.S. Soltis**, J.-B. Yang, L. Fang, S.-X. Yang, and D.-Z. Li. 2017. Temporal and spatial history of the tea family (Theaceae): Insights into the establishment of East Asian subtropical evergreen broadleaved forests. *New Phytologist* 215(3):1235-1248. DOI:10.1111/nph.14683.

Yu, Y., Q. Xiang, P. Manos, **D.E. Soltis**, **P.S. Soltis**, B.-H. Song, S. Chen, X. Liu, and G. Wong. 2017. Whole-genome duplication and acceleration of molecular evolution are associated with the early diversification of *Cornus* L. (Cornaceae): Insights from de novo assembled transcriptome sequences. *PLOS ONE* 12(2):e0171361. DOI:10.1371/journal.pone.0171361.

Yurtseva O.V., O.I. Kuznetsova, and **E.V. Mavrodiev**. 2016. A broadly sampled 3-*loci* plastid phylogeny of *Atraphaxis* (Polygoneae, Polygonaceae) reveals new taxa: I. *Atraphaxis kamelinii* spec. nov from Mongolia. *Phytotaxa*. 268(1):1-24.

Zhang, S.-D., J.-J. Jin, S.-Y. Chen, M.W. Chase, **D.E. Soltis**, H.-T. Li, J.-B. Yang, D.-Z. Li, and T.-S. Yi. 2017. Diversification of Rosaceae since the Late Cretaceous based on plastid phylogenomics. *New Phytologist* 214(3):1355-1367. DOI:10.1111/nph.14461.





Florida Museum of Natural History • P.O. Box 112710 • Gainesville, FL 32611-2710

**Front cover:** These assorted eggs are from the Museum's Ornithology Collection. **Inside left:** Clockwise from top left: *Frogs!* A *Chorus a Colors* was popular with Museum visitors of all ages. About 3,000 *Harry Potter* enthusiasts enjoyed the *Fantastic Beasts of the Florida Museum* public program in January. Nearly 400 guests celebrated the Museum's 100th Anniversary Gala event on April 22: Director Doug Jones speaks following dinner and the band provides musical entertainment. National Geographic photographer Joel Sartore discussed his PhotoArk project on April 21 at the Phillips Center as part of the 100th Anniversary activities. *Wicked Plants: The Exhibit* and its interactive components were well-received by Museum visitors. University of Florida President W. Kent Fuchs was the keynote speaker and helped Doug Jones unveil the Museum's UF Historical Marker at Powell Hall in September 2016, the official kickoff to the yearlong 100th Anniversary events. More than 500 Museum members, employees and guests celebrated the Museum's 100th birthday event May 30, 2017. **Inside right:** Museum Director Doug Jones is pictured in front of Keene-Flint Hall, originally named Science Hall. Completed in 1910, the building's second floor housed the University Museum, which officially became the Florida State Museum on May 30, 1917. **Back cover:** This well-preserved umbrella octopus, *Tremoctopus gelatus*, washed gently ashore on Florida's east coast during an upwelling event in July 2000. ©Florida Museum photos by Kristen Grace, Jeff Gage and Ian Clontz.