

# Daniel John Paluh

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## EDUCATION

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2021 Ph.D. Department of Biology. University of Florida.  
2016 M.Sc. Department of Biology. Villanova University.  
2014 B.Sc. Department of Biology. John Carroll University.

## ACADEMIC POSITIONS

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2024 Visiting Assistant Professor, University of Dayton  
2022-23 NSF Postdoctoral Fellow:  
University of Dayton, University of Florida, and Harvard University  
2019-21 Graduate Teaching Assistant, University of Florida  
2016-19 NSF Graduate Research Fellow, University of Florida  
2016 Graduate Teaching Assistant, Villanova University  
2015 Graduate Research Assistant, Villanova University  
2014 Graduate Teaching Assistant, Villanova University

## FELLOWSHIPS (Total: \$329,000)

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2021 NSF Postdoctoral Research Fellowship in Biology (\$138,000)  
2016 NSF Graduate Research Fellowship (\$102,000)  
2016 University of Florida Graduate Student Fellowship (\$65,000)  
2016 Villanova University Graduate Student Summer Research Fellowship (\$3,000)  
2015 Villanova University Academic Year Research Fellowship (\$7,500)  
2015 Villanova University Graduate Student Summer Research Fellowship (\$3,500)  
2013 Cleveland Museum of Natural History Kirtlandia Research Fellowship (\$2,500)  
2012 Organization for Tropical Studies NSF REU Fellowship (\$3,500)  
2011 American Museum of Natural History NSF REU Fellowship (\$4,000)

## GRANTS & AWARDS (Total: \$22,440)

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2023 Florida Museum of Natural History Travel Award (\$1,000)  
2022 Award for Graduate Student Excellence in Biodiversity Research at the FLMNH (\$250)  
2021 UF Biology Leadership Circle Doctoral Dissertation Completion Scholarship (\$1,000)  
2020 University of Florida Open Access Publishing Fund Award (\$750)  
2020 Society of Systematic Biologists Graduate Student Research Award (\$3,000)  
2020 University of Florida Biological Development Research Fund Award (\$100)  
2019 Best Student Publication in African Journal of Herpetology for 2017/18 (\$350)  
2019 The Explorers Club Exploration Fund – Mamont Scholar Grant (\$2,800)  
2019 University of Florida Michael L. May Research Grant (\$300)  
2019 SICB Vogel Student Research Award (for top scoring GIAR/FGST application)  
2019 SICB Fellowship of Graduate Student Travel (\$2,000)  
2018 Florida Museum of Natural History Travel Award (\$1,000)  
2018 SICB David and Marvalee Wake Award for Best Student Oral Presentation  
2017 Florida Museum of Natural History Travel Award (\$1,000)

- 2016 UF Research Fund (awarded to NSF GRFP recipients at UF; \$6,000)
- 2016 Villanova University Graduate Studies Travel Award (\$950)
- 2016 Gans Collections and Charitable Fund ICVM Attendance Grant (\$440)
- 2015 Villanova University Graduate Studies Travel Award (\$400)
- 2015 Gans Collections and Charitable Fund SSAR Registration Award (\$150)
- 2014 JCU Fenton D. Moore Award for Outstanding Biology Graduate
- 2014 John Carroll University Outstanding Biology Scholar Award
- 2014 John Carroll University Excellence in Biology Award
- 2012 John Carroll University Student Research Grant (\$450)
- 2011 SSAR Student Travel Award (\$500)

PEER-REVIEWED PUBLICATIONS (24 published, 12 first author)

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- Hantak, M.M., R.P. Guralnick, A.C. Cameron, A.H. Griffing, S.M. Harrington, J.L. Weinell, and **D.J. Paluh**. 2022. Color scales with climate in North American ratsnakes. *Biology Letters* 18: 20220403.
- Echevarría, L.Y., **D.J. Paluh**, L.A. García-Ayachi, P.J. Venegas, A. Catenazzi, R. Pradel, and S. Castroviejo-Fisher. 2022. Two new species of marsupial frogs (Anura: Hemiphractidae) from the Central Andes in of northern Peru. *Salamandra* 58: 1–23.
- Paluh, D.J.**, W.A. Dillard, E.L. Stanley, G.J. Fraser, and D.C. Blackburn. 2021. Re-evaluating the morphological evidence for the re-evolution of lost mandibular teeth in frogs. *Evolution* 75: 3203–3213.
- Paluh, D.J.**, K. Riddell, C.M. Early, M.M. Hantak, G.F.M. Jongsma, R.M. Keeffe, F. Magalhães Silva, S.V. Nielsen, M.C. Vallejo-Pareja, E.L. Stanley, and D.C. Blackburn. 2021. Rampant tooth loss across 200 million years of frog evolution. *eLife* 10: e66926.
- Blackburn, D.C., C. Hernández-Morales, **D.J. Paluh**, and E.L. Stanley. 2021. Predation on a gymnophthalmid lizard by the Brazilian Dumpy Frog, *Stereocyclops incrassatus* (Family Microhylidae). *Herpetology Notes* 14: 847–849.
- Venegas, P.J., L.A. García-Ayachi, L.Y. Echevarría, **D.J. Paluh**, J.C. Chávez-Arribasplata, A. Marchelie, and A. Catenazzi. 2021. A new species of marsupial frog (Anura: *Gastrotheca*) from Cordillera de Colán at northeastern Peru. *Vertebrate Zoology* 71: 201–218.
- Weinell, J.L., **D.J. Paluh**, C.D. Siler, and R.M. Brown. 2020. A new miniaturized genus and species of snake (Lamprophiidae: Cyclocoridae) from the Philippines. *Copeia* 108: 907–923.
- Vigle, G.O., L.A. Coloma, J.C. Santos, S. Hernández-Nieto, H.M. Ortega-Andrade, **D.J. Paluh**, and M. Read. 2020. A new species of *Leucostethus* (Anura: Dendrobatidae) from the Cordillera Mache-Chindul in northwestern Ecuador, with comments on similar *Colostethus* and *Hyloxalus*. *Zootaxa* 4896: 342–372.
- Paluh, D.J.**, E.L. Stanley, and D.C. Blackburn. 2020. Evolution of hyperossification expands skull diversity in frogs. *Proceedings of the National Academy of Sciences* 117: 8554–8562.
- Barve, V.V., L. Brenskelle, D. Li, B.J. Stucky, N.V. Barve, M.M. Hantak, B.S. McLean, **D.J. Paluh**, J.A. Oswald, M.W. Belitz, R.A. Folk, and R.P. Guralnick. 2020. Methods for broad-scale plant phenology assessments using citizen scientists’ photographs. *Applications in Plant Sciences* 8: e11315.
- Paluh, D.J.**, E.L. Stanley, and D.C. Blackburn. 2020. First dietary record of *Gastrotheca guentheri* (Hemiphractidae), the lone anuran with true mandibular teeth. *Herpetology Notes* 12: 699–700.

- Blackburn, D.C., **D.J. Paluh**, I. Krone, E.M. Roberts, E.L. Stanley, and N.J. Stevens. 2019. The earliest fossil of the African Clawed Frog (genus *Xenopus*) from sub-Saharan Africa. *Journal of Herpetology* 53: 125–130.
- Stocker, M.R., S.J. Nesbitt, B. Kligman, **D.J. Paluh**, A.D. Marsh, D.C. Blackburn, and W.G. Parker. 2019. The earliest equatorial record of anurans from the Late Triassic of Arizona. *Biology Letters* 15: 20180922.
- Paluh, D.J.** and A.M. Bauer. 2018. Phylogenetic history, allometry and disparate functional pressures influence the morphological diversification of the gekkotan quadrate, a keystone cranial element. *Biological Journal of the Linnean Society* 125: 693–708.
- Paluh, D.J.**, K. Olgun, and A.M. Bauer. 2018. Ontogeny, but not sexual dimorphism, drives the intraspecific variation of quadrate bone morphology in *Hemidactylus turcicus*. *Herpetologica* 74: 22–28.
- Paluh, D.J.** and A.M. Bauer. 2017. Comparative skull anatomy of full-bodied and crevice-dwelling *Trachylepis* skinks (Squamata: Scincidae) with a survey of resources in scincid cranial osteology. *Plos One* 12: e0184414.
- Paluh, D.J.**, A.G. Griffing, and A.M. Bauer. 2017. Sheddable armour: Identification of osteoderms in the integument of *Geckolepis maculata* (Gekkota). *African Journal of Herpetology* 66: 12–24.
- Gignac, P.M., N.J. Kley, J.A. Clarke, M.W. Colbert, A.C. Morhardt, D. Cerio, I.N. Cost, P.G. Cox, J.D. Daza, C.M. Early, M.S. Echols, R.M. Henkelman, A.N. Herdina, C.M. Holliday, Z. Li, K. Mahlow, S. Merchant, J. Müller, C.P. Orsbon, **D.J. Paluh**, M.L. Thies, H.P. Tsai, and L.M. Witmer. 2016. Diffusible iodine-based contrast-enhanced computed tomography (diceCT): an emerging tool for rapid, high-resolution, 3-D imaging of metazoan soft tissues. *Journal of Anatomy* 228: 889–909.
- Hantak, M.M., **D.J. Paluh**, and C.M. Hickerson. 2016. Comparison of the diets of erythristic and striped morphs of the Eastern Red-backed Salamander, *Plethodon cinereus*. *Northeastern Naturalist* 23: 219–228.
- Hantak, M.M., **D.J. Paluh**, and R.A. Saporito. 2016. Bufadienolide and alkaloid-based chemical defences in two different species of neotropical anurans are equally effective against the same arthropod predators. *Journal of Tropical Ecology* 32: 165–169.
- Paluh, D.J.**, C. Eddy, K. Ivanov, C.M. Hickerson, and C.D. Anthony. 2015. Selective foraging on ants by a terrestrial polymorphic salamander. *American Midland Naturalist* 174: 265–277.
- Paluh, D.J.**, E.K. Kenison, and R.A. Saporito. 2015. Frog or Fruit? The importance of color and shape to bird predators in clay model experiments. *Copeia* 103: 58–63.
- Paluh, D.J.**, M.M. Hantak, and R.A. Saporito. 2014. A test of aposematism in the dendrobatid poison frog *Oophaga pumilio*: The importance of movement in clay model experiments. *Journal of Herpetology* 48: 249–254.
- Paluh, D.J.** and C.A. Sheil. 2013. Anatomy of the fully formed chondrocranium of *Emydura subglobosa* (Chelidae), a pleurodiran turtle. *Journal of Morphology* 274: 01–10.

#### NATURAL HISTORY NOTES

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- Weinell, J.L., **D.J. Paluh**, A.L. Singh, D.C. Blackburn, and R.M. Brown. 2019. *Myersophis alpestris*. Reproduction. *Herpetological Review* 50: 164–165.
- Alfonso, Y.A., J. Torre, and **D.J. Paluh**. 2019. The bizarre false-chameleons (clade Chamaeleolis, *Anolis*) from Cuba. *Anolis Newsletter VII*, p. 04-07. Eds. J.T. Stroud, A.J. Geneva, J.B. Losos. Washington University, St. Louis MO.

- Paluh, D.J.** 2018. Review of *Diamonds in the Rough: Natural History of the Eastern Diamondback Rattlesnake* by D. Bruce Means (2017). *Florida Field Naturalist* 46: 76–77.
- Blackburn, D.C., **D.J. Paluh**, and E.L. Stanley. 2017. *Phrynobatrachus krefftii* (Krefft's Puddle Frog). Anurophagy. *Herpetological Review* 48: 413–414.
- Paluh, D.J.** and A.M. Bauer. 2016. *Nephrurus sheai* (Northern knob-tailed gecko). Diet. *Herpetological Review* 47: 466–467.
- Paluh, D.J.**, C.D. Anthony, and C.M. Hickerson. 2013. *Plethodon cinereus* (Eastern Red-backed Salamander). Morphology. *Herpetological Review* 44: 652–653.

#### TEACHING EXPERIENCE

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- 2021 Vertebrate Functional Anatomy. Head teaching assistant. University of Florida.
- 2020 Evolutionary Developmental Biology. Teaching assistant. University of Florida.
- 2020 Vertebrate Functional Anatomy. Invited Lecturer. University of Florida.
- 2020 Vertebrate Functional Anatomy. Teaching assistant. University of Florida.
- 2019 Vertebrate Biodiversity. Teaching assistant. University of Florida.
- 2018 CT & 3D geometric morphometrics. Invited workshop instructor. Villanova University.
- 2016 Vertebrate Comparative Anatomy. Teaching assistant. Villanova University.
- 2015 Human Physiology-Body Works. Teaching assistant. Villanova University.
- 2015 Vertebrate Comparative Anatomy. Teaching assistant. Villanova University.
- 2014 General Biology 1. Teaching assistant. Villanova University.

#### INVITED SEMINARS

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- 2023 University of Dayton Biomed Brown Bag Seminar
- 2022 Harvard Museum of Comparative Zoology Postdoc Lunchtime Seminar
- 2022 University of Dayton Biology Department Seminar
- 2022 University of Arkansas at Little Rock Biology Department Seminar
- 2022 Royal Tyrrell Museum of Palaeontology Speaker Series
- 2021 East Carolina University Research in Progress Seminar Series
- 2021 Florida Museum of Natural History Seminar Series
- 2021 Kennesaw State University Biology Department Seminar Series
- 2020 John Carroll University Biology Department Seminar Series
- 2018 Florida Museum of Natural History Seminar Series

#### INVITED SYMPOSIUM PRESENTATIONS

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- 2023 “Teeth: morphology, function, and evolution” symposium. International Congress of Vertebrate Morphology 2023 Meeting. Cairns, Australia.
- 2023 “What amphibians have taught us about organism-focused evolutionary biology” symposium held in honor of David Wake. SICB 2023 Meeting. Austin, TX.

#### CONTRIBUTED PRESENTATIONS

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- 2022 Evolution Meeting. Cleveland, OH.
- 2021 Evolution Meeting. Virtual.
- 2021 Tomography for Scientific Advancement North America Meeting. Virtual.
- 2020 Society of Systematic Biologists 2020 Meeting. Gainesville, FL.
- 2019 SICB 2019 Meeting. Tampa, FL.
- 2018 Joint Meetings of Ichthyologists and Herpetologists. Rochester, NY.

- 2018 SICB 2018 Meeting. San Francisco, CA.
- 2017 40<sup>th</sup> Annual Herpetology Conference. Gainesville, FL.
- 2016 Joint Meetings of Ichthyologists and Herpetologists. New Orleans, LA.
- 2016 International Congress of Vertebrate Morphology 11. Washington, DC.
- 2015 Society for the Study of Amphibians and Reptiles Meeting. Lawrence, KS.
- 2014 Joint Meetings of Ichthyologists and Herpetologists. Chattanooga, TN.
- 2014 John Carroll University Biology Seminar. University Heights, OH.
- 2014 John Carroll University Celebration of Scholarship. University Heights, OH.
- 2013 The OU/JCU Herpetology Symposium. Athens, OH.
- 2013 34<sup>th</sup> Kirtlandia Research Fellowship Seminar. Cleveland, OH.
- 2012 The OU/JCU Herpetology Symposium. University Heights, OH.
- 2012 World Congress of Herpetology 7. Vancouver, BC.
- 2012 La Selva Biological Station REU Symposium. Heredia, Costa Rica.
- 2011 The OU/JCU Herpetology Symposium. Athens, OH.
- 2011 The American Museum of Natural History REU Symposium. New York, NY
- 2011 Joint Meetings of Ichthyologists and Herpetologists. Minneapolis, MN.

#### FIELDWORK EXPERIENCE

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- 2016-22 Florida: general museum collecting of amphibians and reptiles
- 2018-19 Ecuador: general museum collecting of amphibians and vertebrate fossils
- 2017 Dominican Republic: general museum collecting of reptiles and amphibians
- 2015 Western Australia: general museum collecting of reptiles
- 2012-13 Ohio, USA: ecological studies on plethodontid salamanders
- 2012 La Selva Biological Station, Costa Rica: ecological studies on dendrobatid frogs

#### PUBLIC ENGAGEMENT & OUTREACH

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- 2022 Instructor for FLMNH “Museum in the Parks: Reptiles and Amphibians at Morningside Nature Center” after-school program. 25 students in attendance.
- 2022 Organizer for "Frog Night Walk" outreach event at Florida Museum of Natural History - Museum Block Party. August 11, 2022. 80 in attendance.
- 2022 Co-organizer for "Frog Night Walk" outreach event at Florida Museum of Natural History & UF Natural Area Teaching Laboratory. July 14, 2022. 20 in attendance.
- 2021 Instructor for FLMNH “Museum in the Parks: Herpetology at Paynes Prairie” outreach event. A short video tour was also produced to facilitate self-guided explorations.
- 2018-21 CT data contributor for anatomy educators, researchers, and artists through the oVert Thematic Collections Network grant (NSF DBI-1701714).
- 2020 Created and circulated a nonprofit Frog Skull Diversity [poster](#) for biodiversity outreach and anatomy education purposes.
- 2019 Featured on Herpetologists' League [Herpetologist Highlight](#).
- 2019 Herpetology tabling event at Florida Museum of Natural History “Viva Museum!” bilingual Latin American event.
- 2019 Herpetology tabling event at the Florida Regional Junior Science, Engineering, and Humanities Symposium Opening Social at the Florida Museum of Natural History.
- 2017 Herpetology tabling event at Florida Museum of Natural History “Drink with the Extinct” event.

- 2017 Herpetology tabling event at Florida Museum of Natural History “Rare, Beautiful & Fascinating” Exhibit Opening.
- 2017 Herpetology tabling event at Florida Museum of Natural History “Frogs! Exhibit Celebration” event.
- 2016 Herpetology tabling event at Florida Museum of Natural History “Ask a Scientist: Not So Scary Science!” event.

MENTORSHIP

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- 2023- Madeline Brinkman. Undergraduate researcher, University of Dayton
- 2023- Arianna Olivares. Undergraduate researcher, University of Dayton
- 2023- Megan Clark. Undergraduate researcher, University of Dayton
- 2023- Jacob Szafranski. Undergraduate researcher, University of Dayton
- 2022- Maya Rayle. Undergraduate researcher, Harvard University
- 2022- Daniela Salcedo-Recio. Undergraduate researcher, University of Florida
- 2021-22 Ashley Memmolo. Undergraduate researcher, University of Florida
- 2021 Ryan Kerrigan. Undergraduate researcher, University of Florida
- 2019-21 Karina Riddell. Undergraduate researcher, University of Florida
- 2016-20 Amber Singh. Undergraduate researcher, University of Florida
- 2017-20 Giovanni Fuentes. Undergraduate researcher, University of Florida
- 2017-18 Olivia Trumble. Undergraduate researcher, University of Florida
- 2017-18 Amrita Sumal. Undergraduate researcher, University of Florida
- 2017 Craig Blair. Visiting undergraduate researcher, Oberlin College
- 2016-17 Trevor McCabe. Undergraduate researcher, University of Florida
- 2015-16 Rebecca Jasulevicz. M.Sc. student, Villanova University

ACADEMIC SERVICE

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- 2023 Reviewer for SSAR Roger Conant Grants in Herpetology Program
- 2018-21 Co-chair of SSAR Student Travel Award
- 2018-20 Co-chair of the UF Biology Department Graduate Student Social Committee
- 2011-15 Student volunteer for the Society for the Study of Amphibians and Reptiles; maintained and updated the SSAR website/social media and volunteered annually at the Joint Meeting of Ichthyologists and Herpetologists
- 2013-14 Biology tutor at John Carroll University; tutored students in the following courses: Genetics, Principles of Biology I, and Principles of Biology II

JOURNAL REVIEWER (24 journals & 30 manuscripts reviewed)

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African Journal of Herpetology (1), The Anatomical Record (1), Animal Behaviour (1), Biological Journal of the Linnean Society (2), BMC Ecology and Evolution (1), Canadian Field-Naturalist (1), Current Zoology (1), Ecology and Evolution (1), Functional Ecology (1), Herpetological Conservation and Biology (1), Herpetological Review (2), Herpetology Notes (2), Integrative Organismal Biology (1), Journal of Anatomy (1), Journal of Herpetology (3), Journal of Systematic Paleontology (1), Journal of Zoology (1), Nature Communications (1), Paleobiology (1), Records of the Western Australian Museum (1), Reptiles & Amphibians (1), Royal Society Open Science (1), Zoology (1), Zootaxa (2)

#### PROFESSIONAL DEVELOPMENT

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- 2023 Phylogenetic Comparative Methods in R workshop. University of Massachusetts Boston, MA. NSF sponsored workshop.
- 2017 Transmitting Science Short Course. Finite element analysis applied to life sciences. Institut Català de Paleontologia Miquel Crusafont. Barcelona, Spain.
- 2015 The Austin Working Group: Advancing contrast-enhanced CT imaging in the biological sciences. University of Texas at Austin. Austin, TX. NSF sponsored working group.
- 2014 University of Manchester Analysis of Organismal Form Online Course. Basics of geometrics morphometrics.
- 2011 University of Texas at Austin CT Short Course. Basics of CT data acquisition, visualization, and analysis. Austin, TX. NSF sponsored workshop.

#### PROFESSIONAL AFFILIATIONS

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American Society of Ichthyologists and Herpetologists  
Herpetologists' League  
Society for Integrative and Comparative Biology  
Society for the Study of Amphibians and Reptiles  
Society for the Study of Evolution  
Society of Systematic Biologists

#### SELECTED PRESS

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National Geographic: [This mysterious frog re-evolved a full set of teeth](#)  
Slate Magazine: [What Is Going On With Frog Teeth?](#)  
Florida Museum: [Taking a bite out of frog tooth evolution](#)  
Gobierno del Perú: [Nueva especie de rana marsupial para la ciencia es descubierta](#)  
Gainesville Sun: [As biodiversity slips, Florida Museum scientists discover new species](#)  
CNN: [Scientists discover a new species of snake hiding in plain sight](#)  
University of Kansas: [Remarkable New Species of Snake, Found Hidden in KU BI](#)  
Popular Science: [These spiky frog skulls look more like dinosaur fossils](#)  
Discover Magazine: [New 3D Images Reveal the Evolutionary Wonders Hidden in Frog Skulls](#)  
Florida Museum: [Skulls gone wild: How and why some frogs evolved extreme heads](#)  
Scientific American: [Tiny Fossils Reveal Early Days of Frogs](#)  
Florida Museum: [Skin-ditching gecko inexplicably leaves body armor behind when threatened](#)