

EDUCATION

AUG 2024

DOCTOR OF PHILOSOPHY, INTERDISCIPLINARY ECOLOGY | UNIVERSITY OF FLORIDA

ADVISOR: Brett Scheffers, PhD

THESIS: [PDF](#)

DEC 2017

MASTER OF SCIENCE, BIOLOGY | EASTERN KENTUCKY UNIVERSITY

ADVISOR: Stephen Richter, PhD

THESIS: [PDF](#)

MAY 2014

BACHELOR OF SCIENCE, BIOLOGY | UNIVERSITY OF ARKANSAS

ADVISOR: JD Willson, PhD

THESIS: [PDF](#)

EXPERIENCE

AUG 2024 – PRESENT

POSTDOCTORAL RESEARCH ASSOCIATE | FLORIDA NATURAL HISTORY MUSEUM &
FLORIDA MEDICAL ENTOMOLOGY LAB

AUG 2019 – 2024

DOCTORAL PREEMINENCE FELLOW | UNIVERSITY OF FLORIDA

JAN 2018 – JULY 2019

CONSERVATION AND RESEARCH TECHNICIAN | MEMPHIS ZOO

MAY – AUG 2017

NSF REU RESEARCH COORDINATOR | EASTERN KENTUCKY UNIVERSITY

MAY 2015 – AUG 2017

GRADUATE TEACHING ASSISTANT | EASTERN KENTUCKY UNIVERSITY

AUG 2012 – MAR 2015

UNDERGRADUATE RESEARCH ASSISTANT | UNIVERSITY OF ARKANSAS

FUNDING

USD	ORGANIZATION	FUND NAME	YEAR
\$4,000	UNIVERSITY OF FLORIDA	Robin Nadeau Graduate Research Award	2019
\$195k	UNIVERSITY OF FLORIDA	Doctoral Preeminence Fellowship Award	2019
\$800	EASTERN KENTUCKY UNIVERSITY	Dept. Biology Travel Grant	2017
\$500	SOC. STUDY AMPHIBIANS & REPTILES	Grant-in-Aid of Herpetological Research	2016
\$500	EASTERN KENTUCKY UNIVERSITY	Dep. Biological Sciences Travel Stipend	2016
\$500	EASTERN KENTUCKY UNIVERSITY	Div. Natural Areas Research Grant	2016
\$1,100	EASTERN KENTUCKY UNIVERSITY	Marcia Athey Research Grant	2016
\$700	SOC. FRESHWATER SCIENCE	Instars Fellowship	2014
\$700	SOC. FRESHWATER SCIENCE	Instars Fellowship	2013
\$500	UNIVERSITY OF ARKANSAS	Dept. Biology Travel Grant	2013
\$5,000	NATIONAL SCIENCE FOUNDATION	Research Experience for Undergraduates	2013
\$5,000	NATIONAL SCIENCE FOUNDATION	Research Experience for Undergraduates	2012
\$214,300 (total)			

PUBLICATIONS

†MENTEE CO-AUTHOR

- ...) **Baecher, JA**, D Klings, [+3 authors], BR Scheffers. *In revision*. Isolating what limits the spread of an invasive predator. **Journal of Applied Ecology** [CODE](#) [PREPRINT](#)
- 14) Evans, LJ, **JA Baecher**, BR Scheffers. *In press*. Invasion risk posed by the pet trade. **Frontiers in Ecology and the Environment**
- 13) **Baecher, JA**. 2024. The environmental filtering paradigm and non-filtering community assembly processes. **Journal of Biogeography** 51(11):2109–2116 [HTML](#) [PDF](#)
- 12) Klings, DH, **JA Baecher**, [+27 co-authors], BR Scheffers. 2024. Proximal microclimate: moving beyond spatiotemporal scale to improve predicted biological responses. **Global Ecology and Biogeography** 33(7):e1–16 [HTML](#) [PDF](#) [CODE](#)
- 11) Comte, L, [+5 authors], **JA Baecher**, [+12 authors], J Lenoir. 2024. Bringing traits back in the equation: A roadmap to understand species redistribution. **Global Change Biology** 30:e17271 [HTML](#) [PDF](#)
- 10) Lawlor, JA, L Comte, G Grenouillet, J Lenoir, **JA Baecher**, [+12 co-authors], J Sunday. 2024. Mechanisms, detections, and impacts of species redistributions under climate change. **Nature Reviews Earth & Environment** 5:351–368 [HTML](#) [PDF](#)
- 9) **Baecher, JA**, SA Johnson, EA Roznik, BR Scheffers. 2023. Experimental evaluation of how invasions and climate change interact to alter the vertical assembly of an amphibian community. **Journal of Animal Ecology** 92(4):875–888 [HTML](#) [PDF](#) [CODE](#) | [Press: Nature Climate Change](#) [Florida Today](#) [USGS](#)
- 8) Basham, EW, **JA Baecher**, DH Klings, BR Scheffers. 2022. Vertical stratification patterns of tropical forest vertebrates: A meta-analysis. **Biological Reviews** 98(1):99–114 [HTML](#) [PDF](#) [CODE](#)
- 7) Basham, EW, M González-Pinzón, A Romero-Marcucci, N Carl, **JA Baecher**, BR Scheffers. 2022. Large, old trees define the vertical, horizontal, and seasonal distributions of a poison frog. **Oecologia** 199:257–269 [HTML](#) [PDF](#) [CODE](#)
- 6) Swartwout, M, PN Vogrinc, **JA Baecher**, CS Kross, JD Willson. 2020. Prey Size and Growth Rate do not Influence Trophic Morphology of Juvenile Water Snakes Nerodia sipedon. **Herpetologica** 76(1):53–60 [HTML](#) [PDF](#)
- 5) **Baecher, JA**, [§]E Jones, SC Richter. 2020. Tail bifurcation in two species of *Desmognathus* salamander Caudata: Plethodontidae in southeastern Kentucky, USA. **Herpetological Bulletin** 150:29–30 [HTML](#) [PDF](#)
- 4) Hinkson, KM, **JA Baecher**, S Poo. 2019. Cryopreservation and hormonal induction of spermic urine in the smooth-sided toad *Rhaebo guttatus*. **Cryobiology** 89:109 – 111 [HTML](#) [PDF](#) | [Press: The Commercial Appeal](#) [USA Today](#)
- 3) **Baecher, JA**, SC Richter. 2018. Environmental gradients in an old-growth Appalachian Forest predict fine-scale distribution, co-occurrence, and abundance of woodland salamanders. **Ecology and Evolution** 8(24):12940–12952 [HTML](#) [PDF](#) [CODE](#)
- 2) **Baecher, JA**, PH Vogrinc, JC Guzy, CS Kross, JD Willson. 2017. Herpetofaunal Communities in Restored and Unrestored Remnant Tallgrass Prairie and Associated Wetlands in Northwest Arkansas. **Wetlands** 38:157–168 [HTML](#) [PDF](#)
- 1) **Baecher, JA**, PH Vogrinc, JC Guzy, JC Neal, JD Willson. 2014. Lithobates areolatus, Predation. **Herpetological Review** 45(4):681–682 [PDF](#)

TEACHING AND INSTRUCTION

CO-INSTRUCTOR (OF RECORD):

UNIVERSITY OF FLORIDA | DEPARTMENT OF BIOLOGY

Community Science for Ecologists (WIS 4934/6934)

SPRING 2025

INSTRUCTOR OF RECORD:

UNIVERSITY OF FLORIDA | SCHOOL OF NATURAL RESOURCES AND ENVIRONMENT

Environmental Science Lab (EVS 3000L)

FALL 2022 & 2023

TEACHING ASSISTANT:

EASTERN KENTUCKY UNIVERSITY | DEPARTMENT OF BIOLOGY

Human Anatomy and Physiology Lab (BIO 307)

SPRING & FALL 2015 – 2017

GUEST INSTRUCTION:

UNIVERSITY OF FLORIDA | ENVIRONMENTAL SCIENCE (EVS 3000)

Wetland sampling methods

SPRING & FALL 2023 – 2024

UNIVERSITY OF FLORIDA | ECOLOGY OF CLIMATE CHANGE (WIS 3410)

Achieving landscape connectivity under rapid change SLIDES

SPRING 2023

UNIVERSITY OF FLORIDA | WILDLIFE OF FLORIDA (WIS 3402)

North American salamander diversity and conservation SLIDES

SPRING 2022

Amphibian diversity SLIDES

SPRING 2022

UNIVERSITY OF FLORIDA | WILDLIFE OF FLORIDA (WIS 3402)

Restoration ecology of grassland herpetofauna SLIDES

SPRING 2020

RHODES COLLEGE | VERTEBRATE BIOLOGY (BIO 365)

Natural history and ecology of North American snakes

SPRING 2018

EASTERN KENTUCKY UNIVERSITY | APPLIED LEARNING IN BIOLOGY (BIO 349)

Methods in aquatic amphibian sampling

SPRING 2016

RADFORD UNIVERSITY | APPALACHIAN HERPETOLOGY (BIOL 481)

Appalachian salamander ecology and natural history

SPRING 2016

EASTERN KENTUCKY UNIVERSITY | HERPETOLOGY (BIO 349)

Methods in terrestrial amphibian sampling

SPRING 2016

UNIVERSITY OF ARKANSAS | HERPETOLOGY (BIOL 57473)

Wetland amphibians and reptiles

SPRING 2014

HOSTED WORKSHOPS:

Fletcher, RJ, **JA Baecher**, M Lezzi, A Marx. **2023**. Application of connectivity modeling to identify and predict movement and range redistribution. **Species On The Move**. Bonita Springs, FL SLIDES

Baecher, JA, L Evans, BR Scheffers. **2022**. Expert elicitation of key invasive species habitat requirements, prevalence, and life history attributes. **Austin Cary Forest**. Gainesville, FL SLIDES

Fletcher, RJ, **JA Baecher**, M Lezzi, A Marx. **2021**. Expanding the scope of connectivity modeling with Markov chains: perspectives and applications in R. **International Association of Landscape Ecologists Annual Meeting**. Virtual VIDEO

PRESENTATIONS

[†]STUDENT MENTEE PRESENTER; TOTAL = 37

- 37) [†]**JA Baecher**. **2024**. *Influence of Global Change on Species' Behavior, Movement, and Ranges*. **SNRE Seminar Series**. Gainesville, FL [FLYER](#)
- 36) [†]BR Scheffers, **JA Baecher**, et al. **2024**. *The Pet Trade and A Comprehensive Approach to Assessing Invasive Species Risk*. **Southeastern Climate Adaptation Science Center Webinar**. (virtual)
- 35) [†]**Baecher, JA**, L Evans, ... BR Scheffers. **2024**. *Toward knowledge co-production in invasion modeling: Developing novel interactive expert-elicitation software*. **Invasive Species Research Institute Conference**. Gainesville, FL [SLIDES](#)
- 34) [†]Evans, L, **JA Baecher**, BR Scheffers. **2024**. *An Integrated Approach for Robust Invasive Species Risk Assessments*. **Invasive Species Research Institute**. Gainesville, FL
- 33) [†]**Baecher, JA**, D Klinges, L Evans, BR Scheffers. **2023**. *Informing Species Range-shifts with Global Connectivity*. **Species On The Move**. Ft Myers, FL [SLIDES](#)
- 32) [†]Scheffers, BR, **JA Baecher**, E Basham. **2023**. *Vertical Collapse in Assemblage Complexity Due to Shifts in Precipitation and Novel Biotic Interactions*. **Species On The Move**. Ft. Myers, FL
- 31) [†]Evans, L, **JA Baecher**, BR Scheffers. **2023**. *Invasion Risk Posed by the Pet Trade*. **Species On The Move**. Ft. Myers, FL
- 30) [†]Klinges, DH, J Lembrechts, IMD Maclean, **JA Baecher**, J Lenoir, BR Scheffers. **2023**. *Climate Variability and Change Across Scales Using a Novel Global Microclimate Database*. **Species On The Move**. Ft. Myers, FL
- 29) [†]Evans, L, BR Scheffers, **JA Baecher**. **2022**. *Invasion Risk Posed by the Pet Trade*. **NA Invasive Species Management Association Annual Conference**. Ft. Myers, FL
- 28) [†]Klinges, DH, **JA Baecher**, J Lembrechts, IMD Maclean, BR Scheffers. **2022**. *Climate Variability and Change Across Scales Using a Novel Global Microclimate Database*. **Microclimate Ecology and Biogeography Conference**. Antwerp, Belgium
- 27) [†]**Baecher, JA**, BR Scheffers. **2022**. *Informing Species Range-shifts with Preliminary Global Connectivity*. **BIOSHIFTS Working Group**. Montpellier, France [SLIDES](#)
- 26) [†]**Baecher, JA**, L Evans, BR Scheffers. **2022**. *Predicting the spread of invasive Burmese pythons in Florida*. **SERISCC Network Webinar**. (virtual) [SLIDES](#) [VIDEO](#)
- 25) [†]Khazan, E ... **JA Baecher**. **2022**. *Deconstructing functional diversity to better conservation research and applications using a case study of Colombian butterflies*. **Annual Meeting of the Association for Tropical Biology and Conservation**. Cartagena, Columbia
- 24) [†]**Baecher, JA**, ... BR Scheffers. **2022**. *Modeling spread of invasive Burmese pythons: integrating thermoregulation, behavior, and mortality*. **Annual Meeting of the International Association of Landscape Ecologists**. (Virtual) [SLIDES](#) [VIDEO](#)
- 23) [†]Evans, L, BR Scheffers, **JA Baecher**. **2022**. *Invasion Risk Posed by the Pet Trade*. **Collaborative to Combat the Illegal Trade in Turtles**. (Virtual)

- 22) [†]Basham, EW, M González-Pinzón, A Romero-Marcucci, ..., [JA Baecher](#), BR Scheffers. **2021**. *Large, old trees define the vertical, horizontal, and seasonal distributions of a poison frog*. **International Canopy Science Conference**. (Virtual)
- 21) [†]Basham, EW, M González-Pinzón, A Romero-Marcucci, N Carl, [JA Baecher](#), BR Scheffers. **2021**. *Large, old trees define the vertical, horizontal, and seasonal distributions of a poison frog*. **Annual Meeting of the Ecological Society of America**. (Virtual)
- 20) [†]Basham, EW, [JA Baecher](#), BR Scheffers. **2021**. *Large, old trees define the vertical, horizontal, and seasonal distributions of a poison frog*. **European Meeting of Students in Evolutionary Biology**. (Virtual)
- 19) ^{†§}Jones, E, [JA Baecher](#), M James, A Braccia, SC Richter. **2019**. *Influence of Salamanders on Leaf Litter Decomposition in Appalachian Headwater Streams*. **Annual Meeting of the Association of Southeastern Biologists**. Memphis, TN
- 18) [†]Hinkson, KM, [JA Baecher](#), S Poo. **2019**. *Cryopreservation and hormonal induction of spermic urine in the smooth-sided toad (*Rhaebo guttatus*)*. **Annual Meeting of the Association of Southeastern Biologists**. Memphis, TN
- 17) [†][Baecher, JA](#), SB Reichling. **2018**. *Current Status of the Louisiana Pinesnake Captive Breeding Program at the Memphis Zoo*. **USFWS Working Group Meeting**. Shreveport, LA
- 16) ^{†§}Jones, E, [JA Baecher](#), M James, A Braccia, SC Richter. **2018**. *Influence of Salamanders on Leaf Litter Decomposition in Appalachian Headwater Streams*. **Kentucky Academy of Science**. Bowling Green, KY
- 15) [†]Gross, BA, Z Patton, [JA Baecher](#). **2018**. *Evaluation of American Alligator Nuisance Management and Human-Alligator Conflict*. **25th Annual Crocodile Specialist Group**. Sante Fe, Argentina
- 14) [†][Baecher, JA](#), SC Richter. **2018**. *Natural Gradients Influence the Fine-scale Distribution and Abundance of Salamanders in an Old Growth Appalachian Forest*. **Joint Meeting of Ichthyology and Herpetology**. Rochester, NY
- 13) [†]Grap, P, S Harrel, ... [JA Baecher](#). **2018**. *Habitat and community differences in the historic and current range of the Buck Darter (*Etheostoma nebra*)*. **Annual Meeting of the Association of Southeastern Biologists**. Myrtle Beach, SC
- 12) ^{†§}Peters, J, J Koslow, [JA Baecher](#). **2018**. *Influences on the Presence of Invasive Plant Species within Old Growth Forest of Lilley Cornett Woods*. **Annual Meeting of the Association of Southeastern Biologists**. Myrtle Beach, SC
- 11) [†][Baecher, JA](#), SC Richter. **2017**. *Natural Environmental Gradients Influence the Fine-scale Distribution and Abundance of Terrestrial Salamanders in an Old Growth Appalachian Forest*. **University of Kentucky Center for Ecology, Evolution and Behavior**. Lexington, KY
- 10) ^{†§}Grap, P, S Harrel, D Black, [JA Baecher](#). **2017**. *Habitat and community differences in the historic and current range of the Buck Darter (*Etheostoma nebra*)*. **Southeastern Fisheries Council Annual Meeting**. Chattanooga, TN

- 9) [†]Baecher, JA, SC Richter. **2017**. *Modeling occupancy and abundance of terrestrial salamanders across natural environmental gradients in old growth forest*. **Southeastern PARC Annual Meeting**. Little Rock, AR
- 8) [†]Swartwout, M, P Vogrinc, JA Baecher, CS Kross, JD Willson. **2016**. *Growth and Phenotypic Plasticity of Nerodia sipedon in Response to Feeding Frequency and Prey Size*. **Joint Meeting of Ichthyology and Herpetology**. New Orleans, LA
- 7) [†]Baecher, JA, P Vogrinc, JD Willson. **2016**. *Herpetofauna of degraded and restored remnant tallgrass prairie*. **Joint Meeting of Ichthyology and Herpetology**. New Orleans, LA
- 6) [†]Baecher, JA, DR Leasure, D Lynch, DD Magoulick. **2013**. *Impact of Anthropogenic Land Use and Hydrologic Disturbance on Crayfish Assemblages*. **Joint Meeting of Aquatic Sciences**. Portland, OR
- 5) [†]Baecher, JA, DR Leasure, D Lynch, DD Magoulick. **2013**. *Impact of Anthropogenic Land Use and Hydrologic Disturbance on Crayfish Assemblages*. **Ecosystem Services Research Symposium**. Fayetteville, AR
- 4) [†]Baecher, JA, DR Leasure, D Lynch, DD Magoulick. **2013**. *Impact of Anthropogenic Land Use and Hydrologic Disturbance on Crayfish Assemblages*. **Annual Meeting of the American Fisheries Society**. Little Rock, AR
- 3) [†]Baecher, JA, J Ortega, SJ Beaupré. **2013**. *Use of Stable Isotope Analysis for Determining the Diet Breadth of the Western Cottonmouth (Agkistrodon piscivorus)*. **Society for Freshwater Science Annual Meeting**. Jacksonville, FL
- 2) [†]Baecher, JA, J Ortega, SJ Beaupré. **2013**. *Use of Stable Isotope Analysis for Determining the Diet Breadth of the Western Cottonmouth (Agkistrodon piscivorus)*. **Arkansas Water Resource Conference**. Jacksonville, FL
- 1) [†]Baecher, JA, J Ortega, SJ Beaupré. **2012**. *Use of Stable Isotope Analysis for Determining the Diet Breadth of the Western Cottonmouth (Agkistrodon piscivorus)*. **Ecosystem Services Research Symposium**. Fayetteville, AR

MENTORSHIP

REU^r, POSTER^p, TALK^t, AUTHORSHIP^a, BS THESIS^b, SOUGHT MS^m, SOUGHT PHD^d

EASTERN KENTUCKY UNIVERSITY: SARAH ASHBROOK^{r-p-t}, PEYTON BLAIR^{r-p-t},
ALEX GIBSON, PETER GRAP^{r-p-t-m}, KELLEY HOEFER^{r-p-t}, MYESHA JAMES^{r-p-t},
EMILY JONES^{r-p-t-a-m}, JACOB PETERS^{r-p-t-m-d}, JULIA PORTMANN^{r-p-t-m-d},
JOCELYN STALKER^{r-p-t-a-m}

RHODES COLLEGE: MADELINE ESTES^{p-b-m}

UNIVERSITY OF FLORIDA: BRITTANY ARTHUR, NOAH BOWEN^m, SIERRA SCAUZILLO^p

UNIVERSITY OF ARKANSAS: MYCALA COLEMAN

SELECT VOLUNTEER AND OUTREACH

TOTAL EVENTS = 26, PEOPLE REACHED = ~1,430 (age 5 to 60+) [SEE ALL](#)

ACTIVITY	EVENT	# REACHED	YEAR
Guest teacher	Holt Middle School, AR	~30	2013
Clean-up	Lake Fayetteville Watershed , AR	~30	2013
Science Judge	NWA STEM Fair, AR	~50	2013
Community science	Mount Kessler BioBlitz, AR	~15	2014
Guest teacher	Model Elementary School, KY	~15	2015
Tabling outreach	EKU Career Fair, KY	~150	2016
Community science	Water Quality Assessment, KY	~30	2016
Conservation education	Memphis Zoo, TN	~300	2018

PEER REVIEW

TOTAL REQUESTED = 30, TOTAL REVIEWED = 21

BIOL CONSERV, CONSERV SCI PRACT, ECOGRAPHY, ECOL EVOL, HERPET CONSERV BIO,
HERP REVIEW, HYDROBIOL, NAT AREAS J, OECOLOGIA, SCI REP, WILDL SOC BULL

PROFESSIONAL TRAINING

GRANT WRITING WORKSHOP (2016), MULTISPECIES OCCUPANCY MODELING (2020),
SPECIES DISTRIBUTION MODELING WITH BAYESIAN ADAPTIVE REGRESSION TREES (2021),
SPATIOTEMPORAL MODELING IN R (2021), ECOLOGICAL FORECASTING WORKSHOP (2021),
WRITING AN EFFECTIVE TEACHING STATEMENT (2024), PREPARING FUTURE FACULTY (2025)

NON-FUNDED PROPOSALS

USD	GRANT DESCRIPTION	DECISION	YEAR
\$235k	NSF: Postdoctoral Research Fellowship – Biology	“Highly meritorious”	2023
\$25k	The Wilderness Society: Gloria Barron Fellowship	Declined	2021
\$3,500	American Museum Nat. Hist.: Teddy Roosevelt Memorial Grant	Declined	2020
\$4,000	Foundation Conserv. Salamanders: Daniel M. Digiacomo Grant	Declined	2020
\$60k	The Walt Disney Company: Disney Conservation Fund	Inquiry declined	2019
\$10k	National Park Service: James T. Tanner Memorial Fellowship	Inquiry declined	2019

REFERENCES

ROBERT GURALNICK, PHD | UNIVERSITY OF FLORIDA

CURATOR OF BIODIVERSITY INFORMATICS, Florida Museum of Natural History

☎: (352) 273-1980

✉: rguralnick@ufl.edu🌐: [WEBSITE](#)

LINDSAY CAMPBELL, PHD | UNIVERSITY OF ARKANSAS

ASSISTANT PROFESSOR, Florida Medical Entomology Laboratory

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BRETT R SCHEFFERS, PHD | UNIVERSITY OF FLORIDA

ASSOCIATE PROFESSOR, Department of Wildlife Ecology and Conservation

DIRECTOR, Florida Climate Institute

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STEPHEN C RICHTER, PHD | EASTERN KENTUCKY UNIVERSITY

EXECUTIVE DIRECTOR, Institute of Agriculture, Natural Resources, and Environment

DIRECTOR, Division of Natural Areas; PROFESSOR, Department of Biological Sciences

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