J. ALEX

BAECHER



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EDUCATION

AUGUST 2024

DOCTOR OF PHILOSOPHY, INTERDISCIPLINARY ECOLOGY | UNIVERSITY OF FLORIDA

ADVISOR: Brett R Scheffers, PHD THESIS: PDF

DECEMBER 2017

MASTER OF SCIENCE, BIOLOGY | EASTERN KENTUCKY UNIVERSITY

ADVISOR: Stephen C Richter, PHD THESIS: PDF

MAY 2014

BACHELOR OF SCIENCE, BIOLOGY | UNIVERSITY OF ARKANSAS

ADVISOR: Daniel D Magoulic, PHD THESIS: PDF

EXPERIENCE

AUGUST 2019 - 2024

POSTDOCTORAL RESEARCH ASSOCIATE | UNIVERSITY OF FLORIDA

AUGUST 2019 - 2024

DOCTORAL PREEMINENCE RESEARCH FELLOW | UNIVERSITY OF FLORIDA

JANUARY 2018 - JULY 2019

CONSERVATION AND RESEARCH TECHNICIAN | MEMPHIS ZOO

MAY – AUGUST 2017

NSF REU RESEARCH COORDINATOR | EASTERN KENTUCKY UNIVERSITY

MAY 2015 - AUGUST 2017

GRADUATE TEACHING ASSISTANT | EASTERN KENTUCKY UNIVERSITY

August 2012 - March 2015

UNDERGRADUATE RESEARCH ASSISTANT | UNIVERSITY OF ARKANSAS

FUNDING			
AMOUNT	ORGANIZATION	FUND NAME	YEAR
\$4,000	UF	Robin Nadeau Graduate Research Award	2019
\$195k	UF	Doctoral Preeminence Fellowship Award	2019
\$500	SSAR	Grant-in-Aid of Herpetological Research	2016
\$500	EKU	Dep. Biological Sciences Travel Stipend	2016
\$500	EKU	Div. Natural Areas Research Grant	2016
\$1,100	EKU	Marcia Athey Research Grant	2016
\$700	SFS	Instars Fellowship	2014
\$700	SFS	Instars Fellowship	2013
\$5,000	NSF	Research Experience for Undergraduates	2013
\$5,000	NSF	Research Experience for Undergraduates	2012
Ø010 000			

\$213,000

PUBLICATIONS

§MENTEE CO-AUTHOR †NATURAL HISTORY NOTE

- ...) Baecher, JA, DH Klinges, LJ Evans, BR Scheffers. *In prep*. *Informing species' range shifts with global connectivity*.
- ...) Evans, LJ, **JA Baecher**, J Cullen, C Romagosa, BR Scheffers. *In prep*. An expert elicitation tool for mapping the prevalence and habitat suitability of invasive species.
- ...) Baecher, JA, D Klinges, LJ Evans, C Romagosa, R Fletcher, 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. **Accepted**. 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(7):31–8 HTML PDF
- 12) DH Klinges, JA Baecher, JJ Lembrechts, IMD Maclean, J Lenoir, C Greiser, M Ashcroft, LJ Evans, MR Kearney, J Aalto, IC Barrio, P De Frenne, J Guillemot, K Hylander, T Jucker, M Kopecký, M Luoto, M Macek, I Nijs, J Urban, L van den Brink, P Vangansbeke, J Von Oppen, J Wild, J Boike, R Canessa, M Nosetto, A Rubtsov, J Sallo-Bravo, 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, R Bertrand, S Diamond, LT Lancaster, ML Pinsky, BR Scheffers, JA Baecher, RMWJ Bandara, I-Ching Chen, JA Lawlor, NA Moore, BF Oliveira, J Murienne, J Rolland, MA Rubenstein, J Sunday, LM Thompson, F Villalobos, SR Weiskopf, 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, RMWJ Bandara, R Bertrand, I-Ching Chen, SE Diamond, LT Lancaster, NA Moore, J Murienne, BF Oliveira, GT Pecl, ML Pinsky, J Rolland, M Rubenstein, BR Scheffers, LM Thompson, B van Amerom, F Villalobos, SR Weiskopf, 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 Klinges, 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

INSTRUCTOR OF RECORD

UNIVERSITY OF FLORIDA | SCHOOL OF NATURAL RESOURCES AND ENVIRONMENT
ENVIRONMENTAL SCIENCE LAB (EVS 3000L)
FALL 2022 & 2023

1 section per week (3 hrs in-class); 14 student cap

Teaching evaluations >4.5 / 5 across all categories; eval reports: 2022 2023

TEACHING ASSISTANT

EASTERN KENTUCKY UNIVERSITY | DEPARTMENT OF BIOLOGY

HUMAN ANATOMY AND PHYSIOLOGY LAB (BIO 307)

SPRING & FALL 2022 & 2023

2 – 3 sections per week (4-6 hrs in-class); 25 students

Teaching evaluations 3.8 in overall satisfaction (GPA scale)

GUEST LECTURES AT UNIVERSITY OF FLORIDA:

- 4) Baecher, JA. 2021. Achieving landscape connectivity under rapid global change. The Ecology of Climate Change (WIS 3410) SLIDES
- 3) Baecher, JA. 2020. Restoration ecology of grasslands and associated herpetofauna. Wildlife of Florida (WIS 3402) SLIDES
- 2) Baecher, JA. 2020. Salamander diversity and conservation in the Southeastern USA. Wildlife of Florida (WIS 3402) SLIDES
- 1) **Baecher**, **JA**. **2020**. Amphibian diversity. **Wildlife of Florida** (WIS 3402) **SLIDES HOSTED WORKSHOPS**:
- 3) 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 Carey Forest. Gainesville, FL SLIDES
- 1) 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

†TALK [‡]POSTER [§]MENTEE

- 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. **25**th **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) †SPeters, 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) †SGrap, 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
- *Baecher, JA, P Vongrinc, 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 piscivorous). Society for Freshwater Science Annual Meeting. Jacksonville, FL
- *Baecher, JA, J Ortega, SJ Beaupré. 2013. Use of Stable Isotope Analysis for Determining the Diet Breadth of the Western Cottonmouth (Agkistrodon piscivorous). Arkansas Water Resource Conference. Jacksonville, FL
- *Baecher, JA, J Ortega, SJ Beaupré. 2012. Use of Stable Isotope Analysis for Determining the Diet Breadth of the Western Cottonmouth (Agkistrodon piscivorous). Ecosystem Services Research Symposium. Fayetteville, AR

PEER REVIEW

JOURNAL (REVIEWED/REQUESTED): OVERALL (21/28)

BIOLOGICAL CONSERVATION (1/1); CONSERVATION SCIENCE AND PRACTICE (1/2); ECOGRAPHY (1/2); ECOLOGY AND EVOLUTION (4/5); HERPETOLOGICAL CONSERVATION BIOLOGY (3/5); HERPETOLOGICAL REVIEW (4/5); HYDROBIOLOGY (1/1); NATURAL AREAS JOURNAL (2/2); OECOLOGIA (1/2); SCIENTIFIC REPORTS (1/1); WILDLIFE SOCIETY BULLETIN. (2/2)

MENTORSHIP

EASTERN KENTUCKY UNIVERSITY: NATHAN MCGREGOR, ASHLEY ALBINO, EMILY JONES, ALEX GIBSON, MYESHA JAMES, KELLEY HOEFER

RHODES COLLEGE: BILL HAUGE, MADELINE ESTES

UNIVERSITY OF FLORIDA: SIERRA SCAUZILLO, NOAH BOWEN

AWARDS

UNIVERSITY OF FLORIDA

RECOGNITION FOR UNDERGRADUATE TEACHING (FALL, 2022)

EASTERN KENTUCKY UNIVERSITY

BEST GRADUATE RESEARCH (FALL, 2023)

UNIVERSITY OF ARKANSAS

DEAN'S LIST (SPRING & FALL, 2011-2014)

PROFESSIONAL TRAINING

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

VOLUNTEER AND OUTREACH ACTIVITIES

ACT	TIVITY EVENT (# OF ATTENDEES)	YEAR	CONT'D	
Out	treach UARK Sooie RSO Fair, AR (~300)	2013	Hike leader Maywoods Teach. Lab, KY (~100)	2015
Out	treach UARK Razorbash, AR (~100)	2013	Outreach Floracliff Nature Sanct., KY(~35)	2015
Out	treach Holt Middle School (~30)	2013	Outreach Model Elementary School, KY (~15)	2015
Cle	anup Lake Fayetteville Watershed (~30)	2013	Outreach EKU Career Fair, KY (~150)	2016
Out	treach Mt. Kessler Bioblitz, AR (~15)	2013	Hike leader Lilley Cornett Woods, KY (~20)	2016
Cle	an up Scull Creek, AR (~30)	2013	Outreach Water Quality Assessment, KY (~30)	2016
Sci	ence Judge NWA Sci. Eng. Fair (~ 50)	2013	Hike leader Lilley Cornett Woods, KY (~20)	2016
Hik	e leader Mt. Kessler Bioblitz, AR (~15)	2014	Outreach Rhodes College, TN (~25)	2017
Hik	e leader Ozark Nat. Sci. Center, AR (~30)	2014	Outreach Memphis Zoo, TN (~5)	2017
Out	treach UARK Wildlife Society, AR (~40)	2014	Outreach Memphis Zoo, TN (~100)	2017
Hik	e leader Mt. Kessler Bioblitz, AR (~15)	2014	Outreach Memphis Zoo, TN (~200)	2018
Hik	e leader Woolsey Wet Prairie, AR (~10)	2014	Outreach Memphis Zoo, TN (~30)	2018
Hik	e leader Floracliff Nature Sanct., KY(~20)	2015	Outreach Memphis Zoo, TN (~15)	2019

Non-funded Proposals

AMOUNT	GRANT DESCRIPTION	DECISION	YEAR
\$235k	NSF: Postdoctoral Research Fellowship – Biology	"Highly meritorious"	2023
\$25k	The Wilderness Society: Gloria Barron Fellowship	Declined	2021
\$3,500	AmMusNatHist: Teddy Roosevelt Memorial Grant	Declined	2020
\$4,000	FCSal: Daniel M. Digiacomo Grant	Declined	2020
\$60k	Walt Disney Company: Disney Conservation Fund	Inquiry declined	2019
\$10k	NPS: James T. Tanner Memorial Fellowship	Inquiry declined	2019

REFERENCES

BRETT R SCHEFFERS, PHD | UNIVERSITY OF FLORIDA

ASSOCIATE PROFESSOR, Department of Wildlife Ecology and Conservation

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WEBSITE

STEPHEN C RICHTER, PHD | EASTERN KENTUCKY UNIVERSITY

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

Areas; EXECUTIVE DIRECTOR, Institute of Ag., Nat. Res., and the Envir.

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JOHN D ("JD") WILLSON, PHD | UNIVERSITY OF ARKANSAS

ASSOCIATE PROFESSOR, Department of Biological Sciences

2: 479-575-2647

w: WEBSITE