

J. ALEX BAECHER



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EDUCATION

MAY 2024 expected

INTERDISCIPLINARY ECOLOGY, PHD | UNIVERSITY OF FLORIDA

DECEMBER 2017

BIOLOGICAL SCIENCES, MS | EASTERN KENTUCKY UNIVERSITY

MAY 2014

BIOLOGICAL SCIENCES, BS | UNIVERSITY OF ARKANSAS

EXPERIENCE

AUGUST 2019 – ...

GRADUATE ASSISTANT | UNIVERSITY OF FLORIDA

- **Teaching:** Instructor of record for Environmental Science Laboratory EVS 3000L
- **Research:** Leveraging large datasets and complex dynamic modeling to explore the effects of climate and land use change on invasive and priority native vertebrates in the southeastern USA

JANUARY 2018 – JULY 2019

CONSERVATION AND RESEARCH TECHNICIAN | MEMPHIS ZOO

- **Research:** Investigated the efficacy of various sperm collection and cryopreservation protocols to develop better amphibian reproductive technologies
- **Herpetoculture:** Managed animal care for repatriation project for endangered dusky gopher frogs and Louisiana pine snakes using captive rearing

MAY – AUGUST 2017

NSF REU RESEARCH COORDINATOR | EASTERN KENTUCKY UNIVERSITY

- **Teaching:** Coordinated study design, data collection, analysis, and manuscript development for seven students

MAY 2015 – AUGUST 2017

GRADUATE ASSISTANT | EASTERN KENTUCKY UNIVERSITY

- **Teaching:** 2 – 3 sections per week Human Anatomy Lab
- **Research:** Investigated the population dynamics of woodland salamanders in old growth Appalachian Forest using unmarked occupancy and abundance models
- **Service:** Herpetocultural manager of live outreach animals, including venomous reptiles; led specimen preparation, accessioning, and digitization

JANUARY 2014 – MARCH 2015

RESEARCH ASSISTANT | UNIVERSITY OF ARKANSAS

- **Research:** Managed field and laboratory data collection for projects investigating the effects of ecological disturbances and restoration on herpetofauna

AUGUST 2012 – JANUARY 2014

RESEARCH TECHNICIAN | UNIVERSITY OF ARKANSAS

- **Research:** Assisted in research projects, including field and laboratory data collection, database management and analysis, and community outreach

INVITED PEER REVIEWER

JOURNAL (REVIEWED/REQUESTED):

BIOL. CONSERV. (1/1); CONSERV. SCI. AND PRACT. (1/1); ECOGRAPHY (1/1); ECOL. & EVOL. (4/5); HERP. CON. BIO. (3/5); HERP. REV. (4/5); HYDROBIOLOGIA (1/1); NAT. AREAS J. (2/2); OECOLOGIA (1/2); SCI. REP. (1/1); WILDL. SOC. BULL. (2/2)

PUBLICATIONS

FORTHCOMING:

- 7) JA Baecher, D Klimes, L Evans, BR Scheffers. *In prep.* Informing species range shifts with global connectivity layers. **Expected: One Earth**
- 6) Evans, L, JA Baecher, ... BR Scheffers. *In prep.* An expert elicitation tool for mapping the spatial prevalence and habitat suitability of invasive species. **Biological Invasions**
- 5) Baecher, JA. *In review.* The environmental filtering paradigm and non-filtering community assembly processes. **Journal of Biogeography**
- 4) Baecher, JA, ... BR Scheffers. *In review.* Simulating what limits the spread of a high-profile invasive predator. **Ecography**
- 3) D Klimes, JA Baecher, ... BR Scheffers. *In review.* Proximal microclimate: moving beyond spatiotemporal scale to improve predicted biological responses. **Global Ecology and Biogeography**
- 2) Comte, L, ... JA Baecher, ... J Lenoir. *In revision (minor).* Making traits useful again? A research agenda to understand species on the move. **Global Change Biology**
- 1) Evans, L, JA Baecher, BR Scheffers. *In revision (major).* Invasion risk posed by the pet trade. **Frontiers in Ecology and the Environment**

PUBLISHED:

- 10) Lawlor, JA, ... JA Baecher, ... J Sunday. *In press.* Mechanisms, detections, and impacts of species redistributions under climate change. **Nature Reviews Earth and Environment** [PREPRINT](#)
- 9) JA Baecher, ... 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** [HTML](#) | Research highlight: [Nature Climate Change](#) | Press coverage: [Florida Today](#), [USGS](#)
- 8) Basham, EW, JA Baecher, D Klimes, BR Scheffers. **2022.** Vertical stratification patterns of tropical forest vertebrates: A meta-analysis. **Biological Reviews** [HTML](#)
- 7) Basham, EW, ... JA Baecher, BR Scheffers. **2022.** Large, old trees define the vertical, horizontal, and seasonal distributions of a poison frog. **Oecologia** [HTML](#)
- 6) Swartwout, M, PN Vognrin, JA Baecher, ... JD Willson. **2020.** Prey Size and Growth Rate do not Influence Trophic Morphology of Juvenile Water Snakes *Nerodia sipedon*. **Herpetologica** [HTML](#)
- 5) Baecher, JA, E Jones, SC Richter. **2020.** Tail bifurcation in two species of *Desmognathus* salamander Caudata: Plethodontidae in southeastern Kentucky, USA. **Herpetological Bulletin** [HTML](#)
- 4) Hinkson, KM, JA Baecher, S Poo. **2019.** Cryopreservation and hormonal induction of spermic urine in the smooth-sided toad *Rhaebo guttatus*. **Cryobiology** [HTML](#)
- 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** [HTML](#)
- 2) Baecher, JA, JD Willson, [...], CS Kross. **2018.** Herpetofaunal Communities in Restored and Unrestored Remnant Tallgrass Prairie and Associated Wetlands in Northwest Arkansas, USA. **Wetlands** [HTML](#)
- 1) Baecher, JA, [...], JD Willson. **2014.** *Lithobates areolatus* Predation. **Herpetological Reviews** [HTML](#)

PRESENTATIONS

Selected only external symposia: †talk ‡poster

- 30) †JA Baecher, D Klinges, L Evans, BR Scheffers. **2023. Species On The Move. Ft. Myers, FL** [SLIDES](#)
- 29) †BR Scheffers, JA Baecher, E Basham. **2023. Species On The Move. Ft. Myers, FL**
- 28) †L Evans, JA Baecher, BR Scheffers. **2023. Species On The Move. Ft. Myers, FL**
- 27) †D Klinges, [...], JA Baecher, [...], BR Scheffers. **2023. Species On The Move. Ft. Myers, FL**
- 26) †L Evans, BR Scheffers, JA Baecher. **2022. Invasive Species Mgmt Association. Ft. Myers, FL**
- 25) †D Klinges, JA Baecher, [...], BR Scheffers. **2022. Microclimate Ecol. Biogeog. Antwerp, Belgium**
- 24) †JA Baecher, BR Scheffers. **2022. BIOSHIFTS. Montpellier, France** [SLIDES](#)
- 23) †JA Baecher, L Evans, [...], BR Scheffers. **2022. Southeastern RISC network. Virtual** [SLIDES](#) [VIDEO](#)
- 22) †E Khazan, [...], JA Baecher. **2022. Assoc. for Tropical Biol. and Conserv. Cartagena, Columbia**
- 21) †JA Baecher, [...], BR Scheffers. **2022. Internat. Assoc. Landscape Ecology. Virtual** [SLIDES](#) [VIDEO](#)
- 20) †L Evans, BR Scheffers, JA Baecher. **2022. Collab. Combat the Illegal Trade in Turtles. Virtual**
- 19) †Basham, EW, JA Baecher, [...], BR Scheffers. **2021. Internat. Canopy Science Conference. Virtual**
- 18) †Basham, EW, JA Baecher, [...], BR Scheffers. **2021. Ecological Society of America. Virtual**
- 17) †Basham, EW, JA Baecher, [...], BR Scheffers. **2021. European Meet. Students Evol. Biol. Virtual**
- 16) †Jones, E, JA Baecher, [...], SC Richter. **2019. Assoc. of Southeastern Biologists. Memphis, TN**
- 15) †Hinkson, KM, JA Baecher, S Poo. **2019. Association of Southeastern Biologists. Memphis, TN**
- 14) †Baecher, JA, SB Reichling. **2018. USFWS Working Group Meeting. Shreveport, LA**
- 13) †Jones, E, JA Baecher, [...], SC Richter. **2018. Kentucky Academy of Science. Bowling Green, KY**
- 12) †Gross, BA, Z Patton, JA Baecher, [...]. **2018. 25th Crocodile Specialist Group. Sante Fe, Argentina**
- 11) †Baecher, JA, SC Richter. **2018. Joint Meeting of Ichth's and Herp's. Rochester, NY**
- 10) †Grap, P, S Harrel, [...], JA Baecher. **2018. Assoc. of Southeastern Biologists. Myrtle Beach, SC**
- 9) †Peters, J, J Koslow, JA Baecher. **2018. Assoc. of Southeastern Biologists. Myrtle Beach, SC**
- 8) †Baecher, JA, SC Richter. **2017. Center for Ecology, Evolution and Behavior. Lexington, KY**
- 7) †Grap, P, S Harrel, [...], JA Baecher. **2017. Southeastern Fisheries Council. Chattanooga, TN**
- 6) †Baecher, JA, SC Richter. **2017. SE Partners in Amphibian & Reptile Conserv. Little Rock, AR**
- 5) †Swartwout, M, P Vogrinc, JA Baecher, [...]. **2016. Ichth's and Herp's. New Orleans, LA**
- 4) †Baecher, JA, P Vongrinc, JD Willson. **2016. Ichth's and Herp's. New Orleans, LA USA**
- 3) †Baecher, JA, DR Leasure, [...], DD Magoulick. **2014. Jt. Meeting Aquatic Sciences. Portland, OR**
- 2) †Baecher, JA, DR Leasure, [...], DD Magoulick. **2013. American Fisheries Society. Little Rock, AR**
- 1) †Baecher, JA, J Ortega, SJ Beaupré. **2013. Society for Freshwater Science. Jacksonville, FL**

HOSTED WORKSHOPS:

- 3) Fletcher, R, [...], JA Baecher. **2023. Application of connectivity modeling to identify and predict movement and range redistribution. Species On The Move. Bonita Springs, FL USA**
- 2) Baecher, JA, L Evans, BR Scheffers. **2022. Expert elicitation of key invasive species habitat requirements, prevalence, and life history attributes using an Interactive Shiny App. Austin Carey Forest. Gainesville, FL USA**
- 1) Fletcher, R, JA Baecher, [...], Thomas Smith. **2021. Expanding the scope of connectivity modeling with Markov chains: perspectives and applications in R. International Association of Landscape Ecology. Virtual** [VIDEO](#)

GUEST LECTURES AT UNIVERSITY OF FLORIDA:

- 4) JA Baecher. **2021. Achieving connectivity under rapid change. Course: Ecology of Climate Change**
- 3) JA Baecher. **2020. Restoration ecology of grassland herps. Course: Amphibians of the Southeast**
- 2) JA Baecher. **2020. Amphibian diversity and natural history. Course: Amphibians of the Southeast**
- 1) JA Baecher. **2020. Threats to salamander diversity. Course: Amphibians of the Southeast**

FUNDING

AMOUNT	ORGANIZATION	AWARD NAME	YEAR
\$4,000	University of Florida	Robin Nadeau Graduate Research Award	2019
\$195k	University of Florida	Graduate School Preeminence Award	2019
\$500	Soc. Study Ampib. and Rep.	Grant-in-Aid of Herpetological Research	2016
\$500	Eastern Kentucky University	Dept. 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	Society for Freshwater Science	Instars Fellowship	2013-'14
\$5,000	University of Arkansas	NSF REU Fellowship	2012-'13

MENTORSHIP

EASTERN KENTUCKY UNIVERSITY:

NATHAN MCGREGOR

EMILY JONES

MYESHA JAMES

ASHLEY ALBINO

ALEX GIBSON

KELLEY HOEFER

RHODES COLLEGE:

BILL HAUGE

MADELINE ESTES

UNIVERSITY OF FLORIDA:

SIERRA SCAUZILLO

NOAH BOWEN

PROFESSIONAL REFERENCES

BRETT R SCHEFFERS, PHD | UNIVERSITY OF FLORIDA

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EXECUTIVE DIRECTOR: *Institute of Agriculture, Natural Resources, and the Environment*

DIRECTOR: *Division of Natural Areas;* **PROFESSOR:** *Department of Biological Sciences*

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