KAITLIN M. KARL

PhD Student

Collaborative Conservation Genomics Laboratory

Illinois Natural History Survey - University of Illinois Urbana-Champaign

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EDUCATION

University of Illinois, Urbana- Champaign, IL — June 2024 – Present
Ph.D. Program in Evolution, Ecology, and Behavior

Southern Illinois University, Carbondale, IL — May 2024
B.S. Zoology, *Summa Cum Laude* | GPA: 3.96/4.0

Lincoln Land Community College — January 2019 – May 2021
Biological Sciences Major | GPA: 4.0/4.0

RESEARCH INTERESTS

Applied Ecology and Conservation Biology, Phylogenetics, Systematics, Conservation Genomics, Host-Parasite Interactions, Bioinformatics.

CURRENT RESEARCH PROJECTS

Dissertation Research, University of Illinois, Champaign, IL — August 2024 – Present

- Population genomics and disease ecology of timber rattlesnakes *(Crotalus horridus)* in Northeastern New York.

Additional projects:

- Parasite diversity and host specificity in Peruvian anurans *(Telmatobius* and *Pristimantis spp.)*
- Phylogenetics of Mexican Highland Gartersnakes *(Thamnophis spp.)*

EXPERIENCE

Teaching Assistant (IB464 - Herpetology) | University of Illinois — January – May 2025

- Designed and communicated laboratory lessons on herpetological evolution, systematics, and behavior. Led field studies and guided students in writing field notes and research papers on herpetological topics.

Undergraduate Researcher | Southern Illinois University — November 2021 – May 2024
Research Advisor: Prof. Agustin Jiménez

- Conducted phylogenetic analyses and morphological description of parasite community infecting Peruvian amphibian species.

Herpetological Field Technician | Southern Illinois University — May 2022 – May 2024

- Conducted mark-recapture surveys of Lesser siren *(Siren intermedia)*, site-fidelity surveys of Hylid treefrogs, and monitoring of amphibian community structure within ephemeral wetlands in Johnson County, Illinois; analysis of recorded anuran audio data.

Professional Artist and Illustrator 2016 – Present

- Creation of natural-science based illustrations for use in scientific publications; painting commissions.
- Raised a total of over $20,000 for herpetological conservation efforts through auctioned artwork.

Biological Field Studies | Lincoln Land Community College October 2019 - January 2020

- Surveyed macroinvertebrate species diversity and abundance within Sibun River, Belize; conducted chemical testing for pollutants in river; retrieval and review of trail camera footage.

Ornithological Fieldwork, LLCC Bird Banding Station August 2019 – December 2019

- Performed mist net surveys, point counts, banding, nest counts, and safe handling of various bird species in Illinois.

GRANTS, AWARDS, AND DISTINCTIONS

Honorable Mention, National Science Foundation Graduate Research Fellowship — Spring 2025
Doctoral Merit Fellowship, University of Illinois ($24,000/yr for three years) — Fall 2024
Summer Predoctoral Fellowship, University of Illinois — June 2024 – August 2024
William C. Hill Zoology Scholarship, Southern Illinois University **($20,000)** — Fall 2023
Top Poster Award, SIU Research Forum — May 2023
Sigma Xi Award for Best Poster Presentation — May 2023
Dean's List, Southern Illinois University — 2021-2024
SIU REACH Scholar — August 2022 – May 2023

- Recipient of academic award, research grant, and paid stipend

William C. Hill Zoology Scholarship **($14,000)** — Spring 2022
SIU Zoology Alumni Scholarship **($5,000)** — Spring 2021
SIU Jan Martan Undergraduate Award **($2,500)** — Spring 2021
SIU Dean's Transfer Award **($8,000/year for 2 years)** — Spring 2021
President's Honor Roll, Lincoln Land Community College — 2019 – 2021
Peoria Academy of Sciences Scholarship **($1000)** — Spring 2021
Winner, International Herpetological Symposium Next-Generation Herpetologist Program — May 2020

- Recipient of honorary award, speaking invitation, and travel grant for all expenses

PUBLICATIONS

- **Karl, K. M.** A. Jiménez, A. Catennazzi. (2025). *Ophiotaenia* sp. nov. (Eucestoda: Proteocephalidea), a parasite of *Telmatobius marmoratus* (Anura: Telmatobiidae) in Eastern Peru. In preparation for submission to *Parasitology.*
- Kutok N.J., **K.M. Karl**, M.A. Davis, S. Bol, A.I. Contreras-Calvario. (2025). A New Species of Highland *Thamnophis* (Squamata: Natricidae) from Veracruz, México. In preparation for submission to *Zootaxa*.

PRESENTATIONS AND POSTERS

Karl, K, M. (February 2025). *A New Species of Highland Thamnophis (Squamata: Natricidae) from Veracruz, México*. Poster presentation at EEB Graduate Research Symposium, University of Illinois, Champaign-Urbana, IL.

Karl, K, M. (July 2024). *A Multi-Locus Phylogeny of the Novel Species, Thamnophis citlaltepetl, sp. nov.* Oral presentation at UIUC Summer Research Symposium, University of Illinois, Urbana, IL.

Karl, K.M., Jiménez, A., Catennazzi, A. (April 2023). *Documentation of Helminth Diversity in Peruvian Anurans*. Poster presentation at SIU Research Symposium, Southern Illinois University, Carbondale, IL.

Karl, K.M., Jiménez, A., Catennazzi, A. (June 2023). *Description of a novel species of tapeworm infecting the Marbled Water Frog (Telmatobius marmoratus) in Eastern Peru*. Poster presentation at Annual Midwestern Conference of Parasitologists (AMCOP), University of Wisconsin, Oshkosh, WI.

RESEARCH SKILLS

· Proficient at R statistical programming

· Proficient at Python 3 programming (genomics-specialized coding)

· Completed *Programming for Genomics* course at the University of Illinois (Fall 2024)

- Familiar with fundamental shell commands and bash scripting, RNASeq mapping & genomic alignment tools (e.g., STAR, BWA), and RADseq pipelines (e.g., STACKS Populations)

· Molecular lab work: skilled in DNA extraction, PCR amplification, DNA sequencing preparation, DNA library preparation

· Skilled in many techniques associated with herpetological and avian fieldwork (i.e. mark-recapture methods such as Visible Implant Elastomer (VIE) and PIT-tagging, dip-netting, pitfall trap arrays), general field skills (navigation, transect surveys, etc.) and identification of native fauna.