Kelsey Lyberger

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EDUCATION

PhD, Population Biology, University of California Davis, 2021

Advisors: Dr. Sebastian Schreiber, Dr. Thomas Schoener

B.A. Integrative Biology, University of California Berkeley, 2014

B.S. Environmental Science, University of California Berkeley, 2014

APPOINTMENTS

Assistant Professor, Arizona State University, College of Integrative Sciences and Arts, Polytechnic Campus, 2024 – Present

NSF Postdoctoral Research Fellow in Biology, Stanford University, 2021-2024

PUBLICATIONS

Lyberger, K, Farner, J, Couper, L, and EA Mordecai. 2024. Plasticity in mosquito size and thermal tolerance across a latitudinal climate gradient. *Journal of Animal Ecology*. https://doi.org/10.1111/1365-2656.14149

Lyberger, K, Farner, J, Couper, L, and EA Mordecai. 2024. A mosquito parasite is locally adapted to its host but not temperature. *American Naturalist*, 204(2), 121-132. https://doi.org/10.1086/730522

Couper, L, Farner, J, **Lyberger, K**, Lee*, A, and EA Mordecai. 2024. Mosquito thermal tolerance is remarkably constrained across a large climatic range. *Proceedings of the Royal Society B*, 291:20232457. https://doi.org/10.1098/rspb.2023.2457

Ismail*, S, Farner, J, Couper, L, Mordecai, EA, and **K Lyberger**. 2023. Temperature and intraspecific variation affect host-parasite interactions. *Oecologia*, https://doi.org/10.1007/s00442-023-05481-z

Pepi, A., Hayes, T., and **K Lyberger**. 2023. Thermal asymmetries influence effects of warming on stage and size-dependent predator-prey interactions. *Theoretical Ecology*, 16:105–115. https://doi.org/10.1007/s12080-023-00555-3

Lyberger, K and TW Schoener. 2023. Differential genotype response to increased resource abundance helps explain parallel evolution of *Daphnia* populations in the wild. *Ecology and Evolution*, 13:3, e9896. https://doi.org/10.1002/ece3.9896

Kolbe, J, Giery, ST, Lapiedra, O, **Lyberger, K**, Pita-Aquino, JN, Moniz, HA, Leal, M, Spiller, DA, Losos, JB, Schoener, TW, and J Piovia-Scott. 2023. Experimentally simulating the evolution-to-ecology connection: divergent predator morphologies alter natural food webs. *PNAS*, 120:24, e2221691120. https://doi.org/10.1073/pnas.2221691120

Lyberger, K, Schoener, TW, and SJ Schreiber. 2021. Size selection versus density dependence as altering life-histories: a first experimental probe. *Ecology Letters*, 24:1467-1473. https://doi.org/10.1111/ele.13767

Lyberger, K, Osmond, M, and SJ Schreiber. 2021. Is evolution in response to extreme events good for persistence? *American Naturalist*, 198:1, 44-52. https://doi.org/10.1086/714419

Yamamichi, M, **Lyberger, K**, and S Patel. 2019. Antagonistic coevolution between multiple quantitative traits: Matching dynamics can arise from difference interactions. *Population Ecology*, 61: 362-370. https://doi.org/10.1002/1438-390X.12022

Lyberger, K. 2017. Digest: Fitness gains in guppies support evolution's role in coexistence. *Evolution*, 71: 499–500. https://doi.org/10.1111/evo.13134

*undergraduate mentee author, † equal contribution

GRANTS, FELLOWSHIPS, AND AWARDS

2022 NSF Postdoctoral Research Fellowship in Biology ($138,000)

2020 Center for Population Biology Student Research Fellowship ($1,700)

2020 ARCS Scholar Fellowship ($11,000)

2019 ARCS Scholar Fellowship ($11,000)

2018 Valentine Eastern Sierra Reserve Student Research Grant ($1,500)

2018 Sequoia Learning Conservancy ($5,000)

2017 AQUACOSM Transnational Access Traineeship

2017 Mildred E. Mathias Student Research Grant ($1,300)

2017 Center for Population Biology Student Research Fellowship ($1,500)

2016 Center for Population Biology Student Research Fellowship ($1,300)

2016 Valentine Eastern Sierra Reserve Student Research Grant ($1,500)

2013 Military Order of the Purple Heart Scholarship ($3,000)

2013 Cal Alumni Association Leadership Award ($2,000)

TEACHING

2024	Instructor	ABS 355: Ecology and Adaptations of Vertebrates
2020	Instructor	Summer R course for Howard University undergraduates
2019	Instructor of Record	EVE 101: Introduction to Ecology, UC Davis
2019	Instructor of Record	WFC 134: Herpetology, UC Davis
2018	Teaching Assistant	WFC 134L: Herpetology, UC Davis
2017	Teaching Assistant	ESP 121: Population Ecology, UC Davis

2016 Teaching Assistant BIS 2B: Principles of Ecology and Evolution, UC Davis

2014 Teaching Assistant IB 104: Vertebrate Natural History, UC Berkeley

2013 Teaching Assistant BIO 1AL: General Biology, UC Berkeley

2011 Outdoor Education Instructor Palos Verdes Land Conservancy

PRESENTATIONS AND POSTERS

2024 Ecology and Evolution of Infectious Diseases, Stanford, CA.
Assessing the impact of historical and future climate warming on dengue transmission.

2023 *Invited*. Department of Biological Sciences, University of Pittsburgh.
Navigating change: The evolutionary ecology of species responses to varied environmental change.

2023 *Invited*. Department of Biology, Santa Clara University.
Disease in a warming world: How mosquitoes, parasites, and pathogens respond to rising temperatures.

2023 *Invited*. SIAM Dynamical Systems, Portland, OR.
A pulsed model of drug resistance in soil-transmitted helminths.

2023 Ecological Society of America, Portland, OR.
Assessing patterns of local adaptation along a temperature gradient in a mosquito-parasite metapopulation

2023 Ecology and Evolution of Infectious Diseases, State College, PA.
Assessing local adaptation to hosts and temperature in a mosquito parasite.

2023 Bay Area Ecology and Evolution of Infectious Diseases, San Francisco, CA.
Assessing local adaptation to hosts and temperature in a mosquito parasite.

2023 American Society of Naturalists, Asilomar, CA.
Predicting host-parasite eco-evolutionary dynamics across a climate gradient.

2021 American Society of Naturalists, Asilomar, virtual.
Clonal coexistence and turnover in *Daphnia*: The role of resources and random chance.

2020 Ecological Society of America, virtual.
The impact of extreme climate events on extinction risk and the role of evolution.

2020 American Society of Naturalists, Asilomar, CA.
Evolution and extinction in the face of extreme events.

2019 Evolution, Providence, RI.
Life-history evolution in *Daphnia*: Is density dependence as important as size selection?

2017 Evolution, Portland, OR.
Recovery following predation-induced life-history evolution.

2014 Environmental Science Senior Symposium, Berkeley, CA.
Restoring whitebark pine in the Sierra Nevada: Prescribed Burning Suitability Analysis.

LEADERSHIP AND SERVICE ACTIVITIES

2023-2024	Committee member of Stanford Biology Department Diversity Equity Inclusion and Belonging (DEIB), teaching and undergraduate initiatives subcommittee.
2020-2021	Graduate Student Council Chair of the American Society of Naturalists.
2020	Event organizer for "Evolutionary Response to Environmental Variation and Change", a two-day workshop hosted by the Center for Population Biology.
2018-2020	Volunteer instructor for KiDS, a program to teach the scientific process in a rural 5th grade classroom, which ends with a field trip to one of my study sites.
2017	Workshop designer and leader for "Introductory GIS in R" presented to the graduate student community.
2017-2024	Peer reviewer for 15 articles in the journals *Theoretical Ecology, Molecular Ecology, PRSB, Evolution, Royal Society Open Science, Elementa: Science of the Anthropocene, Ecological Modelling, The American Naturalist, Bulletin of Entomological Research, Ecology, Oecologia, and Ecology Letters*.