MATTHEW CHOI KUSTRA

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APPOINTMENTS

2024 – Present **University of California, Berkeley**
Miller Postdoctoral Research Fellow
Advisor: Dr. Christopher Martin

EDUCATION

2018 – 2024 **University of California, Santa Cruz**
PhD Department of Ecology and Evolutionary Biology
Advisor: Dr. Suzanne Alonzo

2014 – 2018 **University of Virginia**
B.S. in Biology, with Highest Distinction, and B.A. in Computer Science

FELLOWSHIPS, GRANTS, AND HONORS **(Total = $502,500)**

Fellowships (Total = $498,000)
2023 UC Berkeley Postdoctoral Miller Research Fellowship ($321,000)
2022 ARCS Fellow ($10,000)
2018 Dissertation Year Fellowship ($24,000)
2018 NSF Graduate Research Fellowship ($138,000)
2017 NSF Research Experiences for Undergraduates, University of North Carolina at Charlotte ($5,000)

Grants (Total = $4,000)
2022 American Society of Naturalists Student Research Award ($2,000)
2022 International Society for Behavioral Ecology Travel Award ($800)
2017 Rocky Mountain Biological Laboratory REU Travel Grant ($1,200)

Honors (Total = $500)
2023 Society for the Study of Evolution Hamilton Award finalist ($500)
2020 “Honors” for PhD qualifying exam
2018 “Highest Distinction” for undergraduate thesis

PEER-REVIEWED PUBLICATIONS

10. Kustra, M. C., Alissa, L. M., Rogers, M. M., Molinari, M., Stiver, K. A., Marsh-Rollo, S., Hellmann, J., & Alonzo, S. H. (2026). Warm waters undermine cryptic female choice. *Funct. Ecol.* (40):720–735. https://doi.org/10.1111/1365-2435.70266.

9. **Kustra, M. C.**, Servedio, M. R., & Alonzo, S. H. (2025). Cryptic female choice can maintain reproductive isolation. *Evolution*. qpaf156. https://doi.org/10.1093/evolut/qpaf156.

8. **Kustra, M. C.**, & Carrier, T. J. (2025). Microbes as manipulators of developmental life-history. *mBio.* 16 (5): e03655-24. https://doi.org/10.1128/mbio.03655-24.

7. **Kustra, M. C.** & Alonzo, S. H. (2023). The coevolutionary dynamics of cryptic female choice. *Evol. Lett.* 7 (4): 191-202. https://doi.org/10.1093/evlett/qrad025.

6. **Kustra, M. C.**, Stiver, K., Marsh-Rollo, S., Hellmann, J. K., & Alonzo, S. H. (2023). Social environment influences the temporal dynamics of sneak-spawning in a fish with alternative reproductive tactics. *Am. Nat.* 202 (2): 181-191. https://doi.org/10.1086/725057.

5. **Kustra, M. C.** & Carrier, T. J. (2022). On the spread of microbes that manipulate reproduction in marine invertebrates. *Am. Nat.* 200 (2): 217-235. https://doi.org/10.1086/720282.

4. Kahrl, A. F., **Kustra**, **M. C.**, Reedy, A. M., Bhave, R., Seears, H. A., Warner, D. A., & Cox, R. M. (2021). Selection on sperm count, but not on sperm morphology or velocity in a wild population of Anolis lizards. *Cells*. 10 (9): 2369. https://doi.org/10.3390/cells10092369.

3. Cronin. M.R., Alonzo, S. H., Adamczak, S. K., Baker, D. N., Beltran, R. S., Borker, A. L., Favilla, A. B., Gatins, R., Goetz, L. C., Hack, N., Harencar, J.G., Howard, E.A., **Kustra**, **M. C.**, Maguiña, R., Martinez-Estevez, L., Mehta, R. S., Parker, I. M., Reid, K., Roberts, M. B., Shirazi, S. B., Tatom-Naecker, T. M., Voss, K. M., Willis-Norton, E., Vadakan, B., Valenzuela-Toro, A. M., & Zavaleta, E. S. (2021). Anti-racist interventions to transform ecology, evolution and conservation biology departments. *Nat. Ecol. Evol*. 5: 1213 – 1223. https://doi.org/10.1038/s41559-021-01522-z.

2. **Kustra, M. C.** & Alonzo, S. H. (2020). Sperm and alternative reproductive tactics: a review of existing theory and empirical data. *Philos. Trans. R. Soc. B.* 375: 20200075. https://doi.org/10.1098/rstb.2020.0075.

1. **Kustra, M. C.**, Kahrl, A. F., Reedy, A. M., & Cox, R. M. (2019). Sperm morphology and count vary with fine-scale changes in local density in a wild lizard population. *Oecologia*.191: 555-564. https://doi.org/10.1007/s00442-019-04511-z.

MANUSCRIPTS IN REVISION

1. Martin, C. H., Zapata, A. A., Paredes, R.G.C., Cortés, F., Hernández, S. G., **Kustra, M. C**., Mar-Silva, A. F., Mex, F., Palominos, M. F., Tralka, C., Badillo-Alemán, M., Schmitter-Soto, J. J., Martinez, C. M., Arroyave, J., & Gracida-Juárez, C. A. Adaptive radiation along ecological and morphological lines of least resistance in *Cyprinodon* pupfishes. *Evol. J. Linn. Soc. bioRxiv*. https://doi.org/10.1101/2025.08.13.670168.

SUBMITTED MANUSCRIPTS (*undergraduate mentee)

1. **Kustra, M. C**., Tian, D., Palominos, M. F., Guo, F.*, Golwala, O.*, Chau, D., Chan, H. W., Zapata, A. A., Paredes, R.G.C., Cortés, F., Hernández, S. G., Mar-Silva, A. F., Mex, F., Tralka, C., Badillo-Alemán, M., Schmitter-Soto, J. J., Martinez, C. M., Arroyave, J., Gracida-Juárez, C. A., & Martin, C. H. Parallel and non-parallel features of adaptive radiation in Yucatán pupfishes. *under review* at *Sci. Adv. bioRxiv*. https://doi.org/10.1101/2025.11.17.688971.

MAGAZINE ARTICLES

1. **Kustra, M. C**. & Alonzo, S. H. (2025). Quick Guide: Male alternative reproductive tactics. *Curr. Biol*. 35 (14): R697-699. https://doi.org/10.1016/j.cub.2025.06.005.

INVITED TALKS

Center for Population Biology, University of California, Davis, CA. (Planned)	2026
Department of BioSciences, Rice University. Houston, TX.	2026
Museum of Vertebrate Zoology, University of California, Berkeley, CA.	2024

CONFERENCE PRESENTATIONS

Biology of Spermatozoa. Nynäsgård, Sweden.	2025
Evolution. Athens, GA.	2025
Speciation, Gordon Research Seminar. Ventura, CA.	2025
American Society of Naturalists meeting. Asilomar, CA.	2025
Biology of Spermatozoa. Nynäsgård, Sweden.	2023
Evolution. Albuquerque, NM.	2023
American Society of Naturalists meeting. Asilomar, CA.	2023
Stanford/UCSC Species Interactions Workshop. Santa Cruz, CA.	2022
International Society for Behavioral Ecology Congress. Stockholm, Sweden.	2022
Evolution, Virtual.	2021
American Society of Naturalists, Virtual.	2021

Society for Integrative and Comparative Biology. San Francisco, CA. 2018

TEACHING

Guest Lecturer

- *Ichthyology.* University of California, Berkeley (Fall 2025)
- *Teaching Quantitative Skills to Math-Adverse Students.* University of California, Santa Cruz (Winter 2025)

Graduate Instructor of Record: Ecosystems of California *Apr. 2024 – June 2024*
Department of Ecology and Evolutionary Biology, University of California, Santa Cruz

Santa Cruz R User Base Co-leader *Sept. 2019 – May 2024*
Department of Ecology and Evolutionary Biology, University of California, Santa Cruz

Graduate Teaching Assistant *Sept. 2018 – Apr. 2024*
Department of Ecology and Evolutionary Biology, University of California, Santa Cruz

- *Population Genetics* (Winter 2024)
- *Ecosystems of California* (Fall 2023)
- *Modeling Evolution and Ecology* (Winter 2021)
- *Marine Invertebrate Zoology* (Winter 2019)
- *Introduction to Ecology and Evolution* (Fall 2018)

Undergraduate Teaching Assistant *Aug. 2016 – May 2018*
Department of Biology, University of Virginia

- *Introduction to Biology Laboratory: Cell Biology and Genetics* (Fall 2016, 2017)
- *Introduction to Biology Laboratory: Organismal and Evolution* (Spring 2017, 2018)

Professional Workshops and Training

2023 Teaching Sexual Selection – the Gender Academy, Stockholm University, Sweden
2022 Supporting Our International Students and Scholars – Office for Diversity, Equity, and Inclusion; University of California, Santa Cruz
2022 Understanding Religious Beliefs and Believers – Office for Diversity, Equity, and Inclusion; University of California, Santa Cruz
2022 Diversity Inclusion and Certificate Program Mandatory Orientation: Power, Privilege & Positionality – Office for Diversity, Equity, and Inclusion; University of California, Santa Cruz
2020 Preparing for Supporting STEM Identity Workshop – Institute for scientist and engineer educators; University of California, Santa Cruz
2018 Making the CAISE: Creating Active and Inclusive Section Experiences – Ecology and Evolutionary Biology Department; University of California, Santa Cruz

MENTORSHIP

Mentored Research Students *Sept. 2019 – Current*

2022 – Current Oskar Golwala (UC Berkeley)

2024 – Current	Feifei Guo (Undergraduate Honors Thesis Student; UC Berkeley)
2025 – Current	Aaditya Sanil (UC Berkeley)
2022	Anushka Mistry (High School Summer Intern)
2022	Leon Chen (High School Summer Intern)
2021	Maithri Muthukumar (High School Summer Intern)
2021	Jack Brownfield (High School Summer Intern)
2020	Andrew Chinn (High School Summer Intern; IB Extended Essay Student)
2020	Daphney Waller (High School Summer Intern)
2019 – 2020	Joshua Harjes (UC Santa Cruz)
2019 – 2020	Kathryn Lewis (UC Santa Cruz)
2019 – 2020	Halle Bender (UC Santa Cruz)
2019 – 2020	Brennan Wang (UC Santa Cruz)
2019 – 2020	Terrance Zeng (UC Santa Cruz)
2019	Krislyn Jobes (UC Santa Cruz)

Miller Postdoctoral Fellow Peer Mentor *Sept. 2025 – Current*
University of California, Berkeley

Ecology and Evolutionary Biology Mentor Match *Sept. 2021 – Sept. 2024*
Diversity Committee, American Society of Naturalists

High School Science Internship Program Mentor *May 2020 – Aug. 2022*
University of California, Santa Cruz

Peer-to-Peer Graduate Student Mentor *Oct. 2020 – Oct. 2021*
University of California, Santa Cruz

OUTREACH

Volunteer Aquarium Diver *Nov. 2025 – Current*
California Academy of Sciences. San Francisco, CA

Natural History Docent *Oct. 2018 – Dec. 2019*
Santa Cruz Museum of Natural History. Santa Cruz, CA

Evolution Education *July 2016*
Mountain Lake Biological Station. Pembroke, VA

PROFESSIONAL EXPERIENCE

Smithsonian Institution, R Shiny Web App Developer *June 2024 – Dec. 2025*
Smithsonian Environmental Research Center, Tiburon, CA

I developed a R Shiny web app for researchers at the Smithsonian Environmental Research Center to process and filter BLAST results for metabarcoding of eDNA.

Institute of Marine Science, Fisheries Data Analyst *Nov. 2022 – July 2024*
University of California, Santa Cruz

I wrote R scripts to analyze and visualize fishery data. This project helped inform California Department of Fish and Wildlife's implementation of the Marine Life Management Act and other policies. I specifically focused on the socioeconomic and behavioral impacts of domoic acid-related management measures on the state's crab and urchin fisheries and seafood supply systems.

Fish Innovations Lab, R Shiny Web App Developer *June 2021 – Nov. 2023*
Mississippi State University, Starkville, MS

I developed a R Shiny web app for USAID-Feed the Future Initiative project, "Increasing sustainability of fisheries for resilience of Cambodian communities." This tool empowers community fisheries management councils in Cambodia to better assess trends in their fishery and make more informed management decisions. This web app features interactive graphs and maps and allows users to translate between English and Khmer.

AMPEL BioSolutions, Investigative Research Analyst Intern *May 2018 – Aug. 2018*
Charlottesville, VA

I characterized the genetic signature of circulating plasma cells in Systematic Lupus Erythematosus and helped identify candidate drugs that target this genetic signature.

SERVICE

Manuscript Reviewer *Sept. 2022 – Current*

Journal of Fish Biology, The American Naturalist, *Evolution, Behavioral Ecology*, and *Advances in the Study of Behavior*

Integrative Biology Graduate Admissions Committee Member *Nov. 2025 – Jan. 2026*
University of California, Berkeley

Miller Events Specialist Hiring Committee Member *Feb. 2025 – Apr. 2025*
University of California, Berkeley

Faculty Search Committee Graduate Student Representative *Oct. 2022 – Feb. 2023*
University of California, Santa Cruz