

Polly Campbell

Curriculum Vitae

Associate Professor

Department of Evolution, Ecology, & Organismal Biology

University of California Riverside

<https://www.campbelllab.net/>

3378 Spieth Hall

Riverside, CA 92521

polly.campbell@ucr.edu<http://bit.ly/CampbellGoogleScholar>

PROFESSIONAL APPOINTMENTS

07/2021 – present, Associate Professor. Department of Evolution, Ecology & Organismal Biology, University of California Riverside, Riverside, CA.

01/2019 – 06/2021, Assistant Professor. Department of Evolution, Ecology & Organismal Biology, University of California Riverside, Riverside, CA.

07/2013 – 12/2018, Assistant Professor. Department of Integrative Biology, Oklahoma State University, Stillwater, OK.

2009 – 2013, Postdoctoral Fellow. Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ. Advisor: Michael Nachman.

2006 – 2009, Postdoctoral Fellow. Department of Biology, University of Florida, Gainesville, FL. Advisor: Steven Phelps.

EDUCATION

2006, PhD, Ecology and Evolution. Boston University, Boston, MA.

Advisors: Thomas Kunz and Christopher Schneider

Dissertation title: Evolution and ecology of Southeast Asian fruit bats in the genus, *Cynopterus* (Chiroptera: Pteropodidae)

2000, BS, Biology cum laude. University of New Mexico, Albuquerque, NM.

CURRENT FUNDING

2022 – 2026 NSF-DEB Award No. 2211661. Collaborative Research: Beyond sex determination: the evolution and function of Y chromosomes. PI with co-PIs MB Cougar and SW Roy.

PRIOR GRANTS AND FELLOWSHIPS

2016 – 2021 NSF-IOS Award No. 1558109. Epigenetic Effects on Brain and Behavior: Testing the Role of Imprinted Genes. PI.

2009 – 2013 G. G. Simpson Postdoctoral Fellowship, University of Arizona

2007 – 2009 Ruth L. Kirschstein NRSA Postdoctoral Fellowship, NIH

2005 National Geographic Society, Committee for Research and Exploration grant

2002 American Society of Mammalogists, Grants-in-Aid of Research
Sigma Xi, Grants-in-Aid of Research

National Geographic Society, Committee for Research and Exploration grant

- 2001** American Society of Mammalogists, Grants-in-Aid of Research
Sigma Xi, Grants-in-Aid of Research
Disney Wildlife Conservation Fund

AWARDS

- 2023** Committee on Research Award, University of California Riverside
2017 Margaret S. Ewing Award for Dedication to Mentorship, Oklahoma State University Zoology Graduate Student Society
2016 Faculty Travel Award, Oklahoma State University
2014 Summer Salary Award, Oklahoma State University
Faculty Travel Award; Oklahoma State University
2004 Lube Bat Conservancy Award for Outstanding Oral Paper, North American Symposium on Bat Research
2002 B. Elizabeth Horner Award, American Society of Mammalogists
1999 Undergraduate Conference Award, University of New Mexico
1998 Undergraduate Conference Award, University of New Mexico

SELECTED PUBLICATIONS (11/43)

*Denotes Campbell Lab member

Campbell P, and LD Heitzmann*. 2025. Sex ratio drive in mice: A binding competition between sex-linked genes. *Proceedings of the National Academy of Sciences USA* 122: e2501248122.

Li J, **P Campbell**, A Meyer, and D Reznick D. 2025. Heterochronic changes in gene expression underlie placental evolution in the fish family Poeciliidae. *Proceedings of the Royal Society B* 292: 20250573.

Hughes, JJ*, G Lagunas-Robles, and **P Campbell**. 2024. The role of conflict in the formation and maintenance of variant sex chromosome systems in mammals. *Journal of Heredity* 115: 601-624.

Couger, MB, SW Roy, N Anderson, L Gozashti, S Pirro, LS Millward, M Kim, D Kilburn, KJ Liu, TM Wilson, CW Epps, L Dizney, LA Ruedas, and **P Campbell**. 2021. Sex chromosome transformation and the origin of a male-specific X chromosome in the creeping vole. *Science* 372: 592-600.

Arévalo*, L, SA Gardner*, and **P Campbell**. 2021. Haldane's rule in the placenta: sex-biased misregulation of the *Kcnq1* imprinting cluster in hybrid mice. *Evolution* 75: 86-100.

Arévalo*, L, and **P Campbell**. 2020. Placental effects on maternal brain revealed by disrupted placental gene expression in mouse hybrids. *Proceedings of the Royal Society B* 287: 20192563.

Campbell, P, L Arévalo*, H Martin*, C Chen, S Sun, AH Rowe, MS Webster, JB Searle, and B Pasch. 2019. Vocal divergence is concordant with genomic evidence for strong reproductive isolation in grasshopper mice (*Onychomys*). *Ecology and Evolution* 9: 12886-12896.

Gardner*, S, JL Grindstaff, and **P Campbell**. 2019. Placental genotype affects pre- and early postpartum maternal behaviour. *Royal Society Open Science* 6: 190732.

Couger MB, L Arévalo*, and **P Campbell**. 2018. A high quality genome for *Mus spicilegus*, a close relative of house mice with unique social and ecological adaptations. *Genes/Genomes/Genetics* 8: 2145-2152.

Campbell, P, JM Good, and MW Nachman. 2013. Meiotic sex chromosome inactivation is disrupted in sterile hybrid male house mice. *Genetics* 193: 819-828. [Highlighted by Faculty of 1000 Biology]

Campbell, P, JM Good, MD Dean, PK Tucker, and MW Nachman. 2012. The contribution of the Y chromosome to hybrid male sterility in house mice. *Genetics* 191: 1271-1281.

INVITED TALKS

- 2025** Ultra Long nanopore for assembling Y chromosomes and other highly repetitive content*. University of Wisconsin Biotechnology Center, University of Wisconsin, Madison, virtual. March 2025. *Co-presenter with MB Couger
- 2024** Sex chromosome evolution in voles. Department of Human Genetics, University of Michigan, Ann Arbor, MI. November 2024.
- Sex chromosome evolution in voles. Department of Earth and Biological Sciences, Loma Linda University, Loma Linda, CA. November 2024.
- 2023** Sex chromosome evolution in voles. Genetics and Genomics Seminar Series, Department of Biology, Texas A&M University, College Station, TX. April 2023.
- Sex chromosome evolution in *Microtus*: a tale of two Y chromosomes. Vole Meeting 2023: Vole Genetic Engineering. Boulder, CO. August 2023
- Sex chromosome evolution in voles: a tale of two Y chromosomes. Genetics, Genomics & Bioinformatics Annual Graduate Student Research Symposium, University of California Riverside. Keynote speaker. November 2023.
- 2022** Sex chromosomes and conflict. The American Genetic Association President's Symposium: Selfish Evolution. Bainbridge Island, WA. July 2022.
- Decoupling sex and sex chromosome constitution in a mammal. Distinguished Speaker Seminar Series, Stem Cell Biology and Regenerative Medicine, University of Southern California, virtual. February 2022.
- 2021** Placental effects on maternal brain and behavior. Neuroscience Graduate Program Seminar, University of California Riverside, virtual. January 2021.
- Sex chromosome evolution in voles. Department of Biology, University of Maryland College Park, virtual. March 2021.
- 2020** Sex chromosome evolution in voles. Department of Biology, Portland State University, Portland, OR. February 2020.
- 2019** Placental effects on maternal brain and behavior. Molecular and Computational Biology Colloquium, University of Southern California, Los Angeles, CA. November 2019.
- Placental effects on maternal brain and behavior. Division of Biological Sciences, University of Montana, Missoula, MT. October 2019.

Placental effects on maternal brain and behavior. Department of Earth and Biological Sciences, Loma Linda University, Loma Linda, CA. April 2019.

- 2018** Brain-placenta interactions: communication at the molecular level. UT Center for Brain, Behavior & Evolution Spring Symposium: Behavioral Epigenetics. University of Texas, Austin, TX. May 2018.

From pre mating isolation to placenta-brain interactions: communication at the molecular level. Department of Evolution, Ecology & Organismal Biology, University of California, Riverside, CA. January 2018.

- 2017** Speciation in mice. Department of Microbiology and Molecular Genetics, Oklahoma State University, Stillwater, OK. April 2017.

Premating isolation and unstudied hybrid phenotypes in mice. Department of Genetics, University of Georgia, Athens, GA. March 2017.

- 2016** Speciation, pre mating isolation, and hybridization in mice. Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ. October 2016.

- 2014** Sex chromosomes and speciation in mice. Department of Biology, University of Oklahoma, Norman, OK. December 2014.

- 2012** Sex chromosomes, gene regulation and speciation in house mice. Department of Zoology, Oklahoma State University, Stillwater, OK. December 2012.

Sex chromosomes, gene regulation and speciation in house mice. Biological, Earth and Environmental Sciences, University of New South Wales, Sydney, Australia. August 2012.

Gene regulation and reproductive isolation in house mice. Department of Genetics. North Carolina State University, Raleigh, NC. May 2012.

- 2009** Vocal variation in singing mice: Geography, genes and brains. Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ. April 2009.

MENTORSHIP

Postdoctoral Fellows: Louise Heitzmann (current, UCR), Jonathan Hughes (current, UCR), Bonginkosi Gumbi (2022-2023, UCR), Lena Arévalo (2016-2018, OSU)

Graduate students, primary advisor: Swopnil Adhikari (M.S. student, current, UCR), Emma Knoles (Ph.D. student, current, UCR), Harrison Lin (Ph.D. candidate, current, UCR), Sarah Gardner (M.S. 2017, OSU; Ph.D. 2024, UCR), Ayala Berger (Ph.D. 2024, UCR) Kelsey Brass (M.S. 2019, OSU), Tyler Ryan (M.S. 2018, OSU)

Committee member (current): Elisabeth Leung (Ph.D., UCR), Thomas Nonacs (Ph.D., UCR), Zul Alam (Ph.D., UCR), Marissa Cartee (Ph.D., UCR), Mayank Kashap (Ph.D., UCR), Gina Lucas (Ph.D., UCR), Marie Palanchon (Ph.D., UCR), Fernando Rodriguez (Ph.D., UM), Alexandra Sumarli (Ph.D., UCR)

Committee member (past): April Arquilla (Ph.D. 2025), Daniel Pierce (Ph.D. 2024), German Lagunas-Robles (Ph.D. 2024), Dylan Maag (Ph.D., 2023), Rahim Khan (M.S. 2023), Catherine Nguyen (Ph.D. 2023), Nicole Schwartz (Ph.D. 2023), Elisa Henderson (Ph.D. 2022), Monica McNamara (Ph.D. 2022), Samantha Levell (Ph.D. 2022), Scott Goepfner (Ph.D. 2022), Ryan Shannon (Ph.D. 2022), Marcell Cadney (Ph.D. 2021), Matthew Ridenour (M.S. 2020), Timothy Black (M.S. 2019), Jimmy Lovett (M.S. 2019), Nikki Clauss (Ph.D. 2019), Ryan Sherman (Ph.D. 2019), Chathurika Henpita (Ph.D.

2018), Adam Simpson (Ph.D. 2017), Meelyn Pandit (M.S. 2017), Danielle Perryman (M.S. 2017), Shauni Windle (M.S. 2017), John Davidson (M.S. 2015)

PROFESSIONAL SERVICE

Ad hoc grant review: Agence Nationale de la Recherche, American Society of University Women, Deutsche Forschungsgemeinschaft, NSF, United States-Israel Binational Science Foundation

Panel review: NSF DEB, Evolutionary Processes; NSF IOS, Behavioral Systems

Peer review (selected): *Brain, Behavior and Evolution, Chromosome Research, Epigenetics, Evolution, Evolutionary Ecology, Genetics, Heredity, Journal of Comparative Neurology, Journal of Mammalogy, Molecular Biology and Evolution, Molecular Ecology, Nature Communications, Oikos, Proceedings of the National Academy of Sciences USA, Proceedings of the Royal Society London B*

Editorial: Associate Editor, *Royal Society Open Science* (2020 – 2023); Associate Editor, *G3, Genome Reports* (2023 – 2024)

Judge: WD Hamilton Award (Society for the Study of Evolution); Louise Stokes Alliance for Minority Participation Research Symposium, Karen L. Smith Undergraduate Research Symposium, Microbiology and Molecular Genetics Graduate Student Association Research Symposium (Oklahoma State University)