

Matthew J. Medeiros
mattjmedeiros.com

Affiliations

Senior Researcher, Pacific Biosciences Research Center, UH Mānoa
Research Associate, Department of Life Sciences, University of Nevada Las Vegas
Visiting Scholar, Department of Entomology, UC Riverside

Education

2009: Ph.D., Department of Integrative Biology, University of California, Berkeley.
Advisor: R. Dudley.
2000. B.A. *cum laude*, Hamline University, Minnesota. Graduation with Honors in
Biology. Advisor: B.J. Ploger.

Research, Teaching & Consulting Experience

Primary Investigator, UH Mānoa: Improving restoration outcomes for Hawaiian picture-wing *Drosophila*. 2025-present.
Research Associate, UNLV: Investigating gut microbial effects in lab-reared Hawaiian *Drosophila* flies. December 2019 - present.
Insect Taxonomic Consultant, Bullhead City, AZ: February 2019 – present.
Postdoctoral Scholar, UH Mānoa: Environmental and genetic factors governing microbial community diversity in native Hawaiian *Drosophila* flies. December 2019 – September 2024.
Subcontractor, Testing Efficacy of Conservation Actions on Pōhakuloa Training Area, Hawaii Island: US Forest Service. September 2016 – December 2019.
High School Biology & Chemistry Teacher, The Urban School of San Francisco, San Francisco, CA. August 2011 – June 2020,
Subcontractor, Basic Research of the Home Ranges, Seasonal Movements, Habitat Utilization, Diet, and Prey Availability of the Hawaiian Hoary Bat on the Island of Maui: Identifying collected moth samples for H. T. Harvey & Associates. September 2018 – September 2019.
Subcontractor, Decommissioning of Caltech Submillimeter Observatory (CSO) on Maunakea, Hawaii: Environmental Impact Assessment for Sustainable Resources Group International, Inc. September – December 2018.
Subcontractor, Testing Efficacy of UV Fly Traps: Seoul Viosys Co., South Korea. September 2017 – June 2018.
High School Biology & Chemistry Teacher, Landon School, Bethesda, MD. August 2009 – June 2011.
GK-12 Fellow: Exploring California Biodiversity (community outreach). July 2007 – June 2009. University of California. Berkeley, CA.

Graduate Student Instructor, Introduction to Biology. January 2004 – May 2005 and January 2005 – Summer 2007. University of California. Berkeley, CA.
Graduate Student Instructor, Island Biology and Geomorphology. August 2005 – December 2005. Moorea, French Polynesia.
Graduate Student Instructor, Human Anatomy. August 2003 – December 2003. University of California. Berkeley, CA.

Publications

- Medeiros, M.J., Seo, S., Macias, A., Price, D.K., & Yew, J.Y. 2024. ISME Communications. Bacterial and fungal components of the gut microbiome have distinct roles in Hawaiian *Drosophila* reproduction. ISME Communications 4(1): ycae134.
- Kim, Bernard Y., et al. 2024. Single-fly genome assemblies fill major phylogenomic gaps across the Drosophilidae Tree of Life. PLoS Biology 22.7: e3002697.
- Medeiros, M.J., Haines, W.P., Aslan, C.E., Shiels, A.B., Aue, A., & Liang, C.T. 2024. Understory arthropod diversity in a mixed dryland ecosystem, Hawai‘i. Pacific Science 77(4): 363-382.
- Davis, D.R., & Medeiros, M.J. 2023. A Revision of the Family Adelidae of the Western Hemisphere (Lepidoptera: Adeloidea). Smithsonian Contributions to Zoology, Number 656. 228 pages.
- Cavallaro, M.C., Medeiros, M.J., Halloran, S., & Millar, J.G. 2022. Identification and Bioassays of Sex-Specific Compounds from a Nuisance Net-Spinning Caddisfly *Smicridea fasciatella* (Trichoptera: Hydropsychidae). Journal of Economic Entomology 115 (5): 1505-1512.
- Howarth, F.G., Medeiros, M.J., & Stone, F. 2020. Hawaiian Lava Tube Cave Associated Lepidoptera from the Collections of Francis G. Howarth and Fred D. Stone. Bishop Museum Occasional Papers. 129: 37-54.
- Weng, Y., Veire, B.M., Dudko, R.Y., Medeiros, M.J., Kavanaugh, D.H., & Schoville, S.D. 2020. Rapid speciation and ecological divergence into North American alpine habitats: the *Nippononebria* (Coleoptera: Carabidae) species complex. Biological Journal of the Linnean Society 130 (1): 18-33.
- Medeiros, M.J., Kirkpatrick, J., Elliott, C.H., Prestes, A., Eiben, J., & Rubinoff, D. 2019. Two new day-flying species of *Agrotis* Ochsensheimer (Lepidoptera: Noctuidae) from the alpine summit of the Maunakea Volcano. Zootaxa 4545 (2): 277–285.
- Schoville, S. D., Bougie, T. C., Dudko, R. Y., & Medeiros, M. J. 2019. Has past climate change affected cold-specialized species differentially through space and time? *Systematic Entomology*. doi:10.1111/syen.12341
- Medeiros, M.J., Haines, W.P., Carleton, M.A., & Rubinoff, D. 2017. Small survivors: unexpected endemic diversity of *Hyposmocoma* (Lepidoptera: Cosmopterigidae) moths on a small, degraded Hawaiian island. *Zoological Journal of the Linnean Society* 180:570-592.
- Medeiros, M.J., & Howarth, F.G. 2017. Two new endemic cave-living moths from Hawai‘i Island: a new species of *Pseudoschrankia* (Erebidae), and a new species of *Mestolobes* (Crambidae). *Zootaxa* 4276: 435–440.

- Medeiros, M.J., & Schoville, S.D. 2017. Two new records of wing-reduced Tipulidae from North America. *Proceedings of the California Academy of Sciences*. Series 4, 64(2):31-35.
- Medeiros, M.J., Bianchi, G.L., Taschetta, L.R., & Oboyski, P.T. 2016. A review of Polynesian *Carposina* Herrich-Schäffer (Lepidoptera: Carposinidae), with descriptions of four new species. *Zoological Journal of the Linnean Society* 177: 135-146.
- Medeiros, M.J., Goldberg I., & Gillespie R.G. 2015. Geographic exploration within a highly niche conserved moth in the Hawaiian archipelago. *Biological Journal of the Linnean Society*. 116: 495-506.
- Medeiros, M.J. 2015. Two new endemic Hawaiian Lepidoptera: a new species of *Pseudoschrankia* (Erebidae) from Oahu, and a new species of *Thyrocopa* (Xyloryctidae) from Molokai. *Zootaxa* 3990: 593-597.
- Medeiros, M.J., Eiben, J.A., Haines, W.P., Kaholoaa, R.L., King, C.B.A., Krushelnycky, P.D., Magnacca, K.N., Rubinoff, D., Starr, F., & Starr, K. 2013. The importance of insect monitoring to conservation actions in Hawaii. *Proceedings of the Hawaiian Entomological Society* 45: 149-165.
- Medeiros, M.J. & Dudley, R. 2012. Jumping performance in flightless Hawaiian Grasshopper moths (Xyloryctidae: *Thyrocopa* spp.). *Proceedings of the Hawaiian Entomological Society* 44: 55-62.
- Medeiros, M.J. & Adamski, D. 2012. Three new species of Hawaiian moths from Kaho‘olawe Island (Lepidoptera: Crambidae & Coleophoridae). *Zootaxa* 3341: 59-63.
- Medeiros, M.J. & Gillespie, R.G. 2010. Biogeography and the evolution of flightlessness in a radiation of Hawaiian moths (Xyloryctidae: *Thyrocopa*). *J. Biogeography* 38: 101-111.
- Medeiros, M.J. 2009. A revision of the endemic Hawaiian genus *Thyrocopa* (Lepidoptera: Xyloryctidae: Xyloryctinae). *Zootaxa* 2202: 1-47.
- Medeiros, M.J., Davis, D., Howarth, F.G., & Gillespie, R. 2009. Evolution of cave living in Hawaiian *Schrankia* (Lepidoptera: Noctuidae) with description of a remarkable new cave species. *Zoological Journal of the Linnean Society* 156: 114-139.
- Medeiros, M.J. 2008. A new species of flightless, jumping, alpine moth of the genus *Thyrocopa* from Hawaii (Lepidoptera: Xyloryctidae: Xyloryctinae). *Zootaxa* 1830: 57-62.
- Ploger, B.J., & Medeiros, M.J. 2004. Unequal food distribution among *Ardea alba* nestlings: parental choice or sibling aggression? *Journal of Avian Biology* 35: 399-404.
- Borrell, B.J., & Medeiros, M.J. 2004. Thermal stability and muscle efficiency in hovering orchid bees (Apidae: Euglossini). *Journal of Experimental Biology* 207: 2925-2933.
- Medeiros, M.J., Emond, E.E., & Ploger, B.J. 2000. An unusual type of sibling aggression in black-crowned night herons. *Condor* 102: 439-441.

Fellowships & Grants

US Fish and Wildlife Service State Wildlife Grant. Primary Investigator. Improving restoration outcomes for Hawaiian picture-wing *Drosophila*. 2025-2027.

National Institutes of Health Regional Alliance of INBRE Networks (RAIN) Grant. Primary Investigator. Role of the Gut Microbiome in Thermal Stress Tolerance. 2023-2024.

Research Experiences for Teachers supplement for NSF Small Grant: Linking climate to global biogeographical patterns and diversification rates in ice-crawlers. With Dr. Sean Schoville, PI. 2018.

Smithsonian Institution Short-Term Visitor Award for Research. 2015.

Smithsonian Institution Short-Term Visitor Award for Research. 2012.

National Science Foundation International Research Fellowship Program. 2009.
(Declined in order to teach.)

Walker Fund for Systematics Research in Entomology. 2006, 2007, and 2008.

NSS Ralph W. Stone Graduate Fellowship in Cave and Karst Studies. 2006.

Cave Research Foundation Karst Research Grant. 2006.

Xerces Society DeWind Award for Lepidoptera Research and Conservation. 2006.

Society for Integrative and Comparative Biology Research Grant. 2004.

Pacific Rim Research Project Mini-Grant from University of California. 2004.

Sigma Xi Grant in Aid of Research Award. 2004.

Professional Societies

Entomological Society of America
Hawaiian Entomological Society
National Speleological Society