

James C. Mouton

Postdoctoral Fellow
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EXPERTISE

Population Ecology – Species Interactions – Quantitative Ecology – Behavioral Ecology – Evolutionary Ecology – Phenotypic Plasticity – Life History Theory – Global Change Biology
Developmental Plasticity – Maternal Effects – Reproductive Endocrinology – Ecophysiology

RESEARCH INTERESTS

I am a behavioral and population ecologist with broad interests in applying basic theory, empirical data, and quantitative approaches to understand population dynamics in changing environments and the evolution of behavior and life history strategies. My work is grounded in basic theory and seeks to advance our understanding of population ecology and life history evolution in a general way, while also providing actionable information for conservation and management. Much of my research focuses on birds, but I am interested in processes that shape populations regardless of taxonomy.

EDUCATION

2019 – University of Montana, Missoula

PhD in Organismal Biology, Ecology, and Evolution

Dissertation Title: *Developmental, Ecological, and Life History Influences on Predator-induced Plasticity in Songbirds.*

Advisor: Dr. Thomas Martin

2007 – University of California, Davis

Bachelor of Sciences in Biological Sciences

Emphasis in Evolution and Ecology

Minor in Wildlife, Fish and Conservation Biology

ACADEMIC AND RESEARCH POSITIONS

Jul 2020 – Present Smithsonian Conservation Biology Institute,

Migratory Bird Center

Postdoctoral Fellow

Advisor: Dr. T. Scott Sillett

Jan– Jun 2020 University of Arizona,

G.G. Simpson Postdoctoral Fellow

Advisor: Dr. Renee Duckworth

SCIENTIFIC PUBLICATIONS

Peer-Reviewed Papers:

12. Hayes, S.⁺, Cheek, R.⁺, **Mouton, J.C.**, Sillett, T.S., and Ghalambor, C.K. (2022) Nest building behavioral plasticity linked to nesting success in an insular songbird. *Animal Behaviour*. 194:35-42. *Student and post-bac mentees.
11. **Mouton, J.C.**, Duckworth, R.A., Paitz, R.T., and Martin, T.E. (2022) Nest predation risk and deposition of yolk steroids in a cavity-nesting songbird: an experimental test. *Journal of Experimental Biology*. 225:jeb243047.
10. Ton, R., Boyce, A.J., Mitchell, A.E., **Mouton, J.C.**, Gobbo, N.R., Blake, W., and Tobalske, B.W. (2021) Galliformes exhibit reduced cardiorespiratory morphology yet similar skeletal mass compared with other gamebirds. *Wilson Journal of Ornithology*. 133:426-434.
9. **Mouton, J.C.**, and Duckworth, R.A. (2021) Maternal hormones, neurosteroids, and the development of behavior. *Proceedings of the Royal Society B*. 288:20202467.
8. Oteyza, J.C., **Mouton, J.C.**, and Martin, T.E. (2021) Adult survival probability and body size affect parental risk-taking across latitudes. *Ecology Letters*. 24:20-26.
7. **Mouton, J.C.**, Tobalske, B.W., Wright, N.A., and Martin, T.E. (2020) Risk of predation on offspring reduces parental provisioning, but not flight performance or survival across early life stages. *Functional Ecology*. 34:2147-2157.
6. Martin, T.E.* and **Mouton, J.C.*** (2020) Longer-lived tropical songbirds reduce breeding activity to buffer impacts of drought. *Nature Climate Change*. 10:953-958. *Co-lead authors.
5. Boyce, A.J., **Mouton, J.C.**, Lloyd, P., Wolf, B.O., and Martin, T.E. (2020) Metabolic rate is negatively linked to adult survival but does not explain latitudinal differences in songbirds. *Ecology Letters*. 23:642-652.
4. **Mouton, J.C.**, and Martin, T.E. (2019) Nest structure affects auditory and visual detectability, but not predation risk, in a tropical songbird community. *Functional Ecology*. 33:1973-1981.
3. **Mouton, J.C.**, and Martin, T.E. (2018) Fitness consequences of interspecific nesting associations among cavity-nesting birds. *The American Naturalist*. 192:389-396.
2. Martin, T.E., Riordan, M., Repin, R., **Mouton, J.C.**, and Blake, W. (2017) Apparent annual survival estimates of tropical songbirds better reflect life history variation when based on intensive field methods. *Global Ecology and Biogeography*. 26:1386-1397.
1. Martin, T.E., Boyce, A.J., Fierro-Calderón, K., Mitchell, A.E., Armstad, C.E., **Mouton, J.C.**, and Bin Soudi, E. (2017) Enclosed nests may provide greater thermal than nest predation benefits compared with open nests across latitudes. *Functional Ecology*. 31:1231-1240.

Submitted:

- Mouton, J.C.**, and Martin, T.E. Evolved parental responses to offspring solicitation reflect energetic demands and offspring predation risk, not adult survival probability. *Ecology Letters*. In Revision.
- Mouton, J.C.***, Landry D. *, Larkin, B., and Breuner, C.W. No evidence that heat dissipation limits drive seasonal decline in reproductive output in an aerial insectivore. *Co-lead authors. *Ornithology*. In Revision
- Clancey, E., Cheek, R.G., **Mouton, J.C.**, Sillett, T.S., Ghalambor, C.K., Funk, W.C., and Hohenlohe, P.A. Models of phenotypic divergence with gene flow: discriminating between alternative hypotheses promoting microgeographic adaptation in the Island Scrub-Jay. *American Naturalist*. In Revision.
- Martin, T.E., Mitchell, A.E., **Mouton, J.C.**, Oliver, K., Gobbo, N.R., Oteyza, J.C., Ton, R., and Wolf, B.O. Parental daily energy expenditure is explained by mortality and care behaviors but not offspring number. In Revision.

In Preparation:

Mouton, J.C., Hostetter, N.J., Morrison, S., and Sillett, T.S. Evidence for population stability and density dependence in an island endemic songbird. In Prep.

Mouton, J.C., and Chinchilla, F. The diet of coyotes (*Canis latrans*) in tropical lower montane forest and pastures near Monteverde, Costa Rica. In Prep.

FELLOWSHIPS AND AWARDS

2021 \$65,000 – Smithsonian Institution Postdoctoral Fellowship
2020 \$61,000 – Smithsonian Institution Postdoctoral Fellowship
\$23,830 – G.G. Simpson Postdoctoral Fellowship
2019 \$3,000 – UM Bertha Morton Scholarship
2013 \$146,000 – NSF Graduate Research Fellowship

RESEARCH AND TRAVEL GRANTS

2022 \$170,000 – The Nature Conservancy Research Funding
2021 \$200,000 – The Nature Conservancy Research Funding
\$2,474 – American Ornithologists' Union Research Award
2019 \$1,000 – Drollinger-Dial Foundation Travel Award
2018 \$1,000 – Drollinger-Dial Foundation Travel Award
2017 \$13,000 – NSF Doctoral Dissertation Grant
\$2,500 – Toelle-Bekken Family Memorial Fund Grant
\$990 – Drollinger-Dial Foundation Travel Award
2016 \$5,000 – NSF EPSCoR, Institute on Ecosystems Graduate Enhancement Award
\$2,500 – Drollinger-Dial Foundation Travel Award
\$450 – UM Research & Creative Scholarship Fund
2015 \$1,000 – Drollinger-Dial Foundation Travel Award
2014 \$2,119 – American Ornithologists' Union Research Award
\$849 – Drollinger-Dial Foundation Travel Award

PRESENTATIONS

Invited Presentations:

Mouton, J.C. “Prey naivete and proactive management of an endemic island bird in the face of climate change.” Catalina Island Conservancy, California Island Webinar, 24 February 2023, Invited.

Mouton, J.C. “Proactive management for an uncertain future: Assessing potential costs of translocating an endemic island bird among California’s Channel Islands.” Department of Wildlife, Fisheries, and Conservation Biology, University of Maine, 15 February 2023, Invited.

Mouton, J.C. “Reintroduction of Island Scrub-Jays to Santa Rosa Island: assessing the community level impacts on breeding songbirds.” Smithsonian National Zoological Park Seminar, 10 January 2023, Invited.

Contributed Presentations:

Mouton, J.C. “Prey naivete and the management of the Island-Scrub Jay.” 10th California Islands Symposium, 9 November 2022, Virtual.

Mouton, J.C. and T. S. Sillett. “Prey naivete and proactive management of an endemic island bird in the face of climate change.” American Ornithological Society & Birds Caribbean Joint Meeting, 29 June 2022, San Juan, Puerto Rico.

- Mouton, J.C.** "The evolution of parental responsiveness to offspring begging." Society for Integrative and Comparative Biology Annual Meeting +, 14 January 2022, Virtual/Phoenix, AZ.
- Mouton, J.C.** "Developmental, Ecological, and Life History Influences on Predator-induced Plasticity in Songbirds." University of Montana OBEE Noon Seminar, 6 November 2019, Missoula, MT.
- Mouton, J.C.,** Tobalske, B.W., Wright, N.A., and Martin, T.E. "Stage-specific predation risk affects morphology, performance, and survival: an experimental test." International Ornithological Congress, 23 August 2018, Vancouver, BC.
- Mouton, J.C.,** Tobalske, B.W., Wright, N.A., and Martin, T.E. "Stage-specific predation risk affects morphology, performance, and survival: an experimental test." Society for Integrative and Comparative Biology Annual Meeting, 4 January 2018, San Francisco, CA.
- Mouton, J.C.** "Predator-induced plasticity: morphology, performance and survival across life stages." University of Montana OBEE Noon Seminar, 8 November 2017, Missoula, MT.
- Mouton, J.C.,** and Martin, T.E. "Interannual variation in nest predation risk influences spatial associations and fitness outcomes in a cavity nesting bird community." Ecological Society of America Annual Meeting, 11 August 2017, Portland, OR.
- Mouton, J.C.** "The role of competition and predation risk for heterospecific breeding aggregation in cavity nesting birds." University of Montana OBEE Noon Seminar, 7 December 2016, Missoula, MT.
- Oteyza, J.C., **Mouton, J.C.***, and Martin, T.E. "Adult survival probability explains parental risk-taking behavior in tropical and temperate songbirds." North American Ornithological Congress, 18 August 2016, Washington, DC. **Contributing author*
- Mouton, J.C.,** Duckworth, R.A., and Martin, T.E. "Age-specific mortality and hormone-mediated maternal effects: a role for avian life history evolution?" Society for Integrative and Comparative Biology Annual Meeting, 6 January 2016, Portland, OR.
- Mouton, J.C.** "Does offspring begging constrain parental responses to environmental conditions?" University of Montana OBEE Noon Seminar, 28 October 2015, Missoula, MT.
- Mouton, J.C.** "House rules: Do parental responses to nest predation risk constrain offspring developmental trajectories?" University of Montana OBEE Noon Seminar, 18 February 2015, Missoula, MT.
- Mouton, J.C.** "Nest predation risk, parental reproductive strategies, and offspring developmental trajectories: the 'horns of a dilemma'." University of Montana OBEE Noon Seminar, 11 April 2014, Missoula, MT.

Poster Presentations:

- Mouton, J.C.,** and Martin, T.E. "Why do responses to nest predation risk differ across species?" North American Ornithological Congress, 18 August 2016, Washington, DC.

TEACHING EXPERIENCE

- Teaching for science graduate students: philosophy and practice** – University of Montana – Autumn 2015 – C&I 694 – Organized and co-taught a semester long graduate course covering the psychology of learning, curriculum development, assessment strategies, and applying research in the classroom. Co-taught with professors from across four departments.
- OBEE Graduate Seminar Discussion Series** – University of Montana – Autumn 2015, 2016, and 2017 – BIOB 595 – Organized and led weekly graduate student discussion group related to weekly seminars by invited guest lecturers. Facilitated discussion and managed participation. This was a required course for all first-year graduate students and much of my role consisted in mentoring the group or as individuals on institutional, academic, and science-related topics.

Earth and Life Science (Teaching Assistant) – University of Montana – Spring 2015 – BIOB 226 – Instructed a lab section for a biology and geosciences course for future educators. Implemented, designed, and reshaped lab activities. Created and graded lab practical exams and weekly quizzes for assessing student progress.

General Ecology (Teaching Assistant) – University of Montana – Autumn 2014 – BIOB 370 – Instructed a lab section for an upper division ecology course geared towards biology and wildlife biology majors. Created and delivered short lectures for lab activities. Led field trips and facilitated student learning by engaging pairs and small groups during activities. Helped students develop, conduct, write, and present group research projects.

MENTORING EXPERIENCE

Mentoring Overview – I have mentored no fewer than 6 post-bacs and undergraduate students, 8 graduate students, 1 biologist (MS level), and 1 post-doctoral researcher in field biology, written and verbal communication, strong inference science, proposal writing and/or quantitative analyses. I have also mentored students and early-stage biologists in more informal settings in the field and as the leader of the new graduate student seminar discussion group (see teaching experience).

TEACHING, MENTORING, AND DIVERSITY TRAINING

Scientific Teaching Fellow – Yale Center for Teaching and Learning – This week-long institute focused on evidence-based active learning strategies that have been shown to improve student understanding and success in STEM courses. Participants developed an original, peer reviewed course module that incorporated backwards design and learning activities on the topic of their choice.

Pathways to Scientific Teaching – UM NSF Noyce Scholars Program – Developed and implemented learner-centered instructional materials and teaching strategies for interdisciplinary and introductory science courses. Two-day workshop lead by Dr. Diane Ebert-May from the University of Michigan.

Motivating students to complete assigned readings – UM Professional Development Series – Discussed research findings on why so few college students complete course reading assignments and examine strategies for motivating students to read and learn more from those assigned readings.

Understanding and addressing implicit bias – UM Professional Development Series – Discussed ways to recognize and address personal and institutional biases that are harmful to others and explored ways to create an inclusive and supportive culture on campus.

How to invite and assess in-class participation – UM Pedagogy Project – Discussed tactics to engage and assess substantive student participation in classes of all sizes.

Setting the stage for success: Creating classes and assignments to help students manage work, life, and school – UM Pedagogy Project – Explored strategies for engaging non-traditional students balancing family, work, and classes using effective course structures, assignments, and assessments.

Creating an effective campus culture for mentoring Native students – UM Pedagogy Project – Discussed strategies for creating a classroom culture that facilitates effective mentoring for Native American students.

LEADERSHIP AND MANAGEMENT EXPERIENCE

Graduate Student Representative – University of Montana – Served as graduate student representative during faculty meeting. Advocated for student perspectives on institutional issues. Developed and conducted a climate survey of the graduate student body to assess and identify any potential problems with the departmental culture.

Assistant Field Supervisor – University of Montana – Summer 2013 – Coordinated logistics and helped manage and train 19 field technicians to search for and monitor nests.

Video Lab Supervisor – University of Montana – Spring 2013 – Trained and supervised a lab of 30 undergraduates to analyze video recordings of nesting birds collected from three field sites.

Logistics Officer – United States Marine Corps – 2008-2011 – Planned and coordinated all logistical functions for a Marine infantry battalion of up to 1,300 personnel as part of an interdisciplinary staff. Established and managed an effective safety and hazardous materials program. Supervised and developed training for 40-85 Marines. Demonstrated knowledge, skill, and mastery in the principles of structured decision making. Received and provided formal training in various frameworks for structured decision making at multiple levels of organization.

PROFESSIONAL SERVICE

American Ornithological Society: Science Program Committee (2023)

Associate Editor:

Ornithology

Peer-reviewer for Journals:

Ecology Letters

Journal of Animal Ecology

The American Naturalist

Proceedings of the Royal Society B

Ecology

Frontiers in Ecology and Evolution

Ecosphere

Ecology and Evolution

Oecologia

Animal Behavior

Behavioral Ecology and Sociobiology

Behaviour

Journal of Ethology

Ornithology

Journal of Avian Biology

Ibis