

Jessie F. Salter, Ph.D.

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📍 Life Sciences Department
Santa Monica College
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Professional appointments

2023 – present **Santa Monica College**
Assistant Professor of Zoology, Life Sciences Department

2022 – present **Moore Laboratory of Zoology, Occidental College**
Research Affiliate

2021 – present **Natural History Museum of Los Angeles County**
Research Associate, Ornithology Department

2023 **Occidental College**
Visiting Assistant Professor

2022 – 2023 **Natural History Museum of Los Angeles County**
National Science Foundation Postdoctoral Fellow in Biology

2015 – 2021 **Louisiana State University**
PhD Candidate, LSU Museum of Natural Science

Education

2015 – 2021 PhD | Louisiana State University, Baton Rouge, LA
Systematics, Ecology, and Evolution

Dissertation: Historical DNA Solves an Evolutionary Mystery and Explains the Origin of a Novel Phenotype in New World Quails (Odontophoridae). *Louisiana State University*.
Committee: BC Faircloth (co-chair), RT Brumfield (co-chair), MW Kelly, J Cremer.
https://digitalcommons.lsu.edu/gradschool_dissertations/5679/.

2010 – 2014 BA | Occidental College, Los Angeles, CA
Biology, cum laude

Peer-reviewed publications

**denotes undergraduate co-author*

Accepted Hiller, AE, O Johnson, AE Moncrieff, and **JF Salter**. Overgrown bill in a Northern Mockingbird (*Mimus polyglottos*) from West Texas, with a review of elongated bill deformities in the genus *Mimus* and their potential significance. Accepted, ***Southwestern Naturalist***.

- 2023 McCormack JE, MM Hill*, DA DeRaad, EJ Kirsch*, KR Reckling*, MJ Mutchler, BR Ramirez, RML Campbell, **JF Salter**, AK Pizarro, WLE Tsai, E Bonaccorso. An elevational shift facilitated the Mesoamerican diversification of Azure-hooded Jays (*Cyanolyca cucullata*) during the Great American Biotic Interchange. ***Ecology and Evolution*** 13(8):e10411. DOI: [10.1002/ece3.10411](https://doi.org/10.1002/ece3.10411).
- 2023 **Salter JF**, RT Brumfield, and BC Faircloth. An island “endemic” born out of hybridization between introduced lineages. ***Molecular Ecology*** 00, 1–15. DOI: [10.1111/mec.16990](https://doi.org/10.1111/mec.16990).
- 2022 **Salter JF**, PA Hosner, WLE Tsai, JE McCormack, EL Braun, RT Kimball, RT Brumfield, and BC Faircloth. Historical specimens and the limits of subspecies phylogenomics in the New World quail (Odontophoridae). ***Molecular Phylogenetics and Evolution*** 175, 107559. DOI: [10.1016/j.ympev.2022.107559](https://doi.org/10.1016/j.ympev.2022.107559)
- 2021 Del-Rio G, MJ Mutchler*, B Costa, AE Hiller, B Matinata, **JF Salter**, LF Silveira, M Rego, and DC Schmitt. Birds of the Juruá River: extensive várzea forest as a barrier to *terra firme* birds. ***Journal of Ornithology*** 162:565-577. DOI: [10.1007/s10336-020-01850-0](https://doi.org/10.1007/s10336-020-01850-0).
- 2020 Krabbe NK, TS Schulenberg, KV Rosenberg, TJ Davis, GH Rosenberg, PA Hosner, DF Lane, MJ Andersen, MB Robbins, CD Cadena, T Valqui, **JF Salter**, AJ Spencer, F Angulo, and J Fjeldså. Untangling cryptic avian diversity in the High Andes: revision of the *Scytalopus [magellanicus]* complex (Rhinocryptidae) in Peru reveals three new species. ***The Auk: Ornithological Advances*** 137:ukaa003. DOI: [10.1093/auk/ukaa003](https://doi.org/10.1093/auk/ukaa003)
- 2020 **Salter JF**, CH Oliveros, PA Hosner, JD Manthey, MB Robbins, RG Moyle, RT Brumfield, and BC Faircloth. Extensive paraphyly in the typical owl family (Strigidae). ***The Auk: Ornithological Advances*** 137:1–15. DOI: [10.1093/auk/ukz070](https://doi.org/10.1093/auk/ukz070). This paper was selected as Editor’s Choice.
- 2019 **Salter JF**, O Johnson, NJ Stafford, III, WF Herrin, D Schilling, C Cedotal, RT Brumfield, and BC Faircloth. A highly contiguous reference genome for Northern Bobwhite (*Colinus virginianus*). ***G3: Genes / Genomes / Genetics*** 9:3929–3932. DOI: [10.1534/g3.119.400609](https://doi.org/10.1534/g3.119.400609)
- 2016 Alvarez S, **JF Salter**, JE McCormack, and B Mila. Speciation in mountain refugia: phylogeography and demographic history of the pine siskin and black-capped siskin complex. ***Journal of Avian Biology*** 47:335–345. DOI: [10.1111/jav.00814](https://doi.org/10.1111/jav.00814)

Popular press articles

- 2022 **Salter, JF**. Red Quail, Revisited: How Herbert Stoddard’s Specimens are Helping Solve a Centuries-Old Bobwhite Mystery. *Tall Timbers eJournal* 8, 12–15. <https://tinyurl.com/red-quail>
- 2019 **Salter, JF**. Unraveling the Mystery of the Long-whiskered Owlet. *Wing Beat*. <https://tinyurl.com/xenoglaux>
- 2018 Hiller, AE, and **JF Salter**. West Texas Expedition 2017. *Museum Quarterly* 36, 10–11. <https://tinyurl.com/lsumns>
- 2017 Jarreau, P. Birds of a Feather: **Jessie Salter** Tackles a Plumage Mystery. *Science Next*. <https://tinyurl.com/scinext>
- 2014 **Salter, JF**. June 3, 2014 - Ditsowu, Talamanca, Costa Rica: Lessons from the Bribri. *Tropical Ecology* 2014. <https://tinyurl.com/bio370>

Invited Seminars

- 2022 Occidental College, Biology Seminar Series for Undergraduates
2022 San Diego Field Ornithologists Meeting
2022 Natural History Museum of Los Angeles County, Research & Collections Seminar Series
2017 Louisiana State University, Computational Biology Seminar Series for Undergraduates

Conference presentations

*Bolded names denote the presenter | *denotes undergraduate co-author*

- 2023 **Salter JF**, BT Higa*, CJ Mason*, KC Bell, AJ Shultz. A quantitative test of Gloger's Rule and its underlying mechanisms in Northern Bobwhites (*Colinus virginianus*). Talk. American Ornithological Society and the Society of Canadian Ornithologists Joint Meeting, Aug 8-12, London, Ontario, Canada.
- 2023 **Mutchler MJ**, A Schoonmaker, B Costa, H Handika, A Hiller, G Lima, B Matinata, JF Salter, D Schmitt, B Faircloth, R Brumfield, G Del-Rio. Phylogenomic analysis and novel taxon of a widespread Amazonian antbird, *Myrmoborus myotherinus*. Talk. American Ornithological Society and the Society of Canadian Ornithologists Joint Meeting, Aug 8-12, London, Ontario, Canada.
- 2023 **Higa BT***, JF Salter, KC Bell, AJ Shultz. Latitudinal Variation in feather structure and color in Northern Bobwhites (*Colinus virginianus*). Poster. Southern California Academy of Science 2023 Meeting, May 5, Santa Barbara, CA.
- 2022 **Mutchler MJ***, A Schoonmaker, B Costa, H Handika, AE Hiller, G Lima, B Matinata, JF Salter, MA Rego, DC Schmitt, BC Faircloth, RT Brumfield, G Del-Rio. The Juruá River as a barrier for different populations of the Black-faced Antbird (*Myrmoborous myotherinus*). Poster. Wilson Ornithological Society 2022 Meeting, Jul. 17 – 20, Santa Fe, NM. This poster won the Nancy Klamm Undergraduate Presentation Award for best poster presentation.
- 2022 **Salter JF**, HI Hill*, RT Brumfield, BC Faircloth. The genomic basis of Erythris in Northern Bobwhites (*Colinus virginianus*). Talk. Joint conference of the American Ornithological Society and Birds Caribbean, Jun. 27 – Jul. 2, San Juan, PR. This talk received an honorable mention in the AOS Student Presentation Award Competition.
- 2021 **Salter JF**, RT Brumfield, BC Faircloth. Island endemic or recent introduction? Genomic data from historical specimens reveal the complex origin of Cuban bobwhites (*Colinus virginianus cubanensis*). Talk. Joint virtual meeting of the American Ornithological Society and the Society of Canadian Ornithologists, Aug. 9-14.
- 2021 **Salter JF**, RT Brumfield, BC Faircloth. Genomic data from historical specimens reveal the complex origin of a sedentary quail on Cuba. Talk. Virtual Evolution Meeting, Jun. 21-25.
- 2019 **Salter JF**, AW Mercante*, RT Brumfield, BC Faircloth. Where did Cuban bobwhites come from? Lightning Talk. American Ornithology Meeting, Jun. 24-28, Anchorage, AK.
- 2017 **Salter JF**, PA Hosner, EL Braun, RT Kimball, BC Faircloth. Slow markers & fast birds: a subspecific phylogeny of the New World Quail using thousands of UCE loci. Talk. Joint meeting of American Ornithological Society and the Society of Canadian Ornithologists, Jul. 31-Aug. 5, East Lansing, MI.
- 2016 **Salter JF**, CH Oliveros, JD Manthey, PA Hosner, MB Robbins, RG Moyle, BC Faircloth. A phylogenomic hypothesis of relationships among Typical Owls (Strigidae). Lightning Talk. Society of Systematic Biologists, Jan. 7-10, Baton Rouge, LA.

- 2016 **Salter JF**, CH Oliveros, JD Manthey, PA Hosner, MB Robbins, RG Moyle, BC Faircloth. A phylogenomic hypothesis of relationships among Typical Owls (Strigidae). Talk. North American Ornithological Conference, Aug. 16-20, Washington, D.C.
- 2016 **Salter JF**, CH Oliveros, JD Manthey, PA Hosner, MB Robbins, RG Moyle, BC Faircloth. A phylogenomic hypothesis of relationships among Typical Owls (Strigidae). Lightning Talk. The Evolution Conference, Jun. 17-21, Austin, TX. (video available here: <https://youtu.be/0z8v-N26-qQ>).
- 2015 **Salter JF**, JM Maley, JE McCormack. Sequencing DNA from museum specimens helps elucidate disputed localities in the Fulvous Owl (*Strix fulvescens*). Talk. Annual Meeting of the American Ornithologist's Union, Sep. 23-27, Estes Park, CO.

Honors & awards

- 2022 American Ornithological Society. Student Presentation Award Competition (Honorable Mention).
- 2017 Louisiana State University Museum of Natural Science. Virginia L. Mouw Award in Ornithology.
- 2017 National Science Foundation. Graduate Research Fellowship Program (Honorable Mention).

Fellowships & grants (\$153,920 total)

- 2021 National Science Foundation. Postdoctoral Research Fellowship in Biology. DBI-2109361 (\$138,000).
- 2019 Louisiana State University, Department of Biological Sciences. Carrie Lynn Yoder Superior Graduate Student Scholarship (\$6,000).
- 2019 Louisiana State University, Department of Biological Sciences. T. Vinton Holmes Award (\$1,000).
- 2019 Louisiana State University, Department of Biological Sciences. BioGrads Student Travel Award (\$400).
- 2017 Society of Systematic Biologists. Graduate Student Research Award (\$1,700).
- 2017 American Ornithological Society. Student Travel Award (\$180).
- 2017 Louisiana State University, Department of Biological Sciences. BioGrads Student Research Award (\$400).
- 2017 American Museum of Natural History. Chapman Grant (\$1,200).
- 2016 Louisiana State University, Department of Biological Sciences. BioGrads Student Travel Award (\$400).
- 2016 North American Ornithological Conference Student Travel Award (\$240).
- 2016 Society for the Study of Evolution Student Travel Award (\$500).
- 2013 Occidental College Summer Research Program Fellowship (\$3,900).

Teaching & course development

2023 –
present

Assistant Professor

Santa Monica College | **ZOOL 05 Introductory Zoology & Lab** (40 students)

Santa Monica College | **BIOL 23 Organismal Ecology and Biology & Lab** (18 students)

Visiting Assistant Professor

2023

Occidental College | **BIO 360 & 360L Avian Biology & Avian Biology Lab** (16 students)

Upper-division lecture and field-based course providing a holistic understanding of avian biology with an emphasis on placing the wide diversity of bird plumage, morphology, and behavior in an evolutionary context. Students learn to identify local birds by sight and sound through lab-based activities using the Moore Laboratory of Zoology bird collection and local field trips, and develop and implement semester-long independent research projects on topics related to avian ecology and evolution.

Course Development

2022

Occidental College | **BIO 326L Molecular Phylogenetics Lab** (16 students)

Developed materials for a computer-lab based course designed to provide hands-on experience conducting analyses with phylogenetic datasets, including: basic command-line skills, downloading sequence data from NCBI GenBank, sequence alignment, gene tree and species tree estimation using maximum likelihood, Bayesian, and multispecies coalescent methods, and divergence dating.

2014

Occidental College | **HIST 355 Indians of Mexico** (18 students)

Developed a curriculum and four research topics using historical bird specimens and other resources from the Moore Laboratory of Zoology. Students investigated how the biology of Mexican bird species influenced their relative importance in Aztec culture, religion, and economy. Project culminated in digital exhibits and a presentation to the Board of Trustees.

Invited Lecturer

2022

Loyola University Chicago | **BIOL 282 Genetics** (50 students)

2019

Louisiana State University | **BIOL 3040 Evolution** (55 students)

Graduate Teaching Assistant

2020 –
2021

Louisiana State University | **BIOL 1208 Intro Biology Lab for Science Majors**, *online* (60 students)

2019

Louisiana State University | **BIOL 4142 Ornithology** (24 students)

2016

Louisiana State University | **BIOL 2153 Principles of Genetics** (60 students)

2015

Louisiana State University | **BIOL 1208 Intro Biology Lab for Science Majors**, *in-person* (60 students)

Curatorial experience

Curatorial Assistant

2019 –
2020

Ornithology Collection, Louisiana State University Museum of Natural Science

Catalogued and installed incoming specimens in collection and database, prepared specimens, assisted with collection maintenance.

2016 – **Genetic Resources Collection, Louisiana State University Museum of Natural Science**
2018 Catalogued and installed incoming tissues in collection and database, filled loans, assisted with database migration to new software.

Field experience

2019 **Juruá river, Amazonas, Brazil – Emilie Snethlage Expedition**

(30 days) *LSU Museum of Natural Science*

Survey of the avifauna of the Juruá river, a major tributary of the Amazon, documenting contact zones and species turnover. This expedition collected the first tissues and modern specimens of birds from this region, which was last surveyed in the 1930s. The expedition was led by women scientists from the U.S. and Brazil, and is the subject of a forthcoming documentary film.

2019 **Gonzales County, Texas – general collecting**

(5 days) *LSU Museum of Natural Science*

Co-led survey of post-oak savanna ranchland documenting contact zones between eastern and western birds. Trained one graduate and one undergraduate student in collecting methods.

2018 **Leon County, Florida – population monitoring**

(14 days) *Tall Timbers Research Station*

Game Bird Lab team member for January 2018 season. Trapped, banded, measured, and tracked 1,000+ birds for a long-term study on Northern Bobwhite population dynamics.

2016 – **Tangipahoa Parish, Louisiana – targeted collecting**

2017 *LSU Museum of Natural Science*

Led multiple targeted collecting trips to Sandy Hollow WMA to collect high-quality samples of multiple species for whole-genome sequencing and annotation.

2017 **Brewster County, Texas – general collecting**

(14 days) *LSU Museum of Natural Science*

Co-led survey of Black Gap and Elephant Mountain WMAs, focus on Chihuahuan Desert, riparian, and pinyon-juniper birds.

2015 **Cochise County, Arizona – general collecting**

(14 days) *Moore Laboratory of Zoology, Occidental College*

Focus on bird species of the Dragoon and Chiricahua Mountain sky islands.

2014 **Costa Rica and Panama – tropical ecology field course**

(21 days) *Occidental College*

La Selva Biological Station, Pacuare Nature Reserve (CR); Institute for Tropical Ecology and Conservation (Bocas del Toro, PA).

Service & outreach

- 2022 **Underrepresented Genders in Museum Ornithology (UGiMO)**
Coordinator
Founded in 2020, UGiMO is an online community for ornithologists at all career stages who identify as a gender historically excluded in museum science. Through our Slack channel we provide a vibrant space for networking, seeking/sharing science and career-related advice, and host monthly Zoom meetings on professional development topics such as work/life balance, navigating mentor/mentee relationships, and professional service.
- 2022 **Various public outreach & members events – Natural History Museum of Los Angeles County**
Insider Field Trip: Turning Tide (60 guests) • Earth Day (2,700 guests) • Bug Fair (4,400 guests) • *House of the Dragon* (750 guests) • Haunted Museum (1,200 guests) • Homeschool Day (600 guests)
- 2020 **Girls Virtual Road Trip to the Museum – Louisiana Public Broadcasting & LSU Museum of Natural Science**
Guest Scientist
Virtual event developed to engage girls (ages 9-12) in exploration of the natural world. Attendees participated in small-group breakout chats with LSU women scientists from different fields to discuss natural history, how to develop scientific thinking skills, and how to prepare for future careers in natural history and other STEM fields. Event was attended by 70 girls. (*Promotional interview for this event: <https://youtu.be/ZxaPaOE31AQ>*).
- 2019 **Special Saturday Program – LSU Museum of Natural Science**
Guest scientist: “Extraordinary Chickens?”
Developed presentation and hands-on educational activities to teach students (ages 5-12) and their parents about domestication of chickens, wild species of chickens and their close relatives, and artificial selection for fancy chicken breeds. Event was attended by 30 students and their families.
- 2016 – 2018 **Louisiana State University College of Science Executive Committee**
Graduate Student Representative
Member of the Development & Membership Focus Initiative Group. Worked with the College of Science Dean Cynthia Peterson on fundraising strategies, new member recruitment to the Dean’s Circle, and future development of the College of Science.
- 2016 – 2017 **Night at the Museum, Ornithology Collection – LSU Museum of Natural Science**
Presenter & tour guide
Selected owl specimens and presented to attendees about the unique adaptations owls have for hunting, the diversity of owls around the world and in Louisiana, and the findings of my research into their phylogenetic relationships (*video online: <https://goo.gl/rXmQMK>*). Event was targeted to LSU undergraduates and community members; attended by 40 people. (*Press coverage of the 2016 event in The Advocate : <https://goo.gl/o30EFk>*).
- 2015 – 2020 **Various public outreach events – LSU Museum of Natural Science**
Girls Day at the Museum • Special Saturday Program • Night at the Museum • Louisiana Earth Day Festival • LSU Fall Fest • Yellow Rails and Rice Festival
- Ongoing **Manuscript reviews for peer-reviewed journals**
Journal of Heredity • Ibis • Integrative and Comparative Biology • Molecular Ecology Resources • Molecular Phylogenetics and Evolution • Western Birds

Trainees & mentorship

Undergraduate students

Colter Mason (Occidental College, 2023 – present)

Blake Higa (Glendale Community College, 2022 – 2023)

Marquette Mutchler (Moore Laboratory of Zoology, Occidental College; LSU, 2019 – 2023)

Heather Hill (Tall Timbers Research Station, 2020)

Andrew Mercante (LSU, 2017 – 2020)

R. Austin Clark (LSU, 2016 – 2020)

Marguerite Poché (LSU, 2015 – 2019)

Taylor Marcus (LSU, 2017 – 2018)

Biannca Pierre (LSU, 2017 – 2018)

Ashley Schoonmaker (LSU, 2017)

Skills

Laboratory

DNA extraction (historical & modern); library preparation; targeted enrichment; whole genome & Sanger sequencing; compound & SEM microscopy

Computational

Linux/Unix environments; programming in BASH, Python, & R; high-performance computing; ImageJ & macro scripting

Field & Curatorial

Specimen preparation (birds, insects, fish, plants); mist-netting; general & targeted collecting; management of wet and dry collections; Specify

Scientific affiliations

American Genetics Association (2018 – 2020)

American Ornithological Society (2016 – present)

Society for the Study of Evolution (2016 – present)

Society of Systematic Biologists (2016 – present)

Sigma Xi (2016 – 2018)