

## Matthew J. Miller

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15 October 2016

### EDUCATION

2008            PhD, Biological Sciences, University of Alaska Fairbanks  
2001            MS, Ecology and Evolutionary Biology, University of Arizona  
1997 – 1998   Graduate Study, Latin American Studies, University of Arizona  
1996            BA with Distinction, Biology, Swarthmore College

### PROFESSIONAL APPOINTMENTS

2016 –            Assistant Curator of Ornithology, Oklahoma Museum of Natural History  
2016 –            Assistant Professor of Biology, University of Oklahoma  
2014 –            Distinguished Member, National System of Researchers, Senacyt, Panama  
2014 –            Adjunct Professor, INDICASAT, Panama  
2015 – 2016    Teaching and Research Fellow, Department of Biology, Villanova University  
2013 – 2014    Research Fellow, Smithsonian Tropical Research Institute, Panama  
2008 – 2014    Founding Curator, Smithsonian Tropical Research Institute Bird Collection  
2008 – 2012    Postdoctoral Fellow, Smithsonian Tropical Research Institute

### PUBLICATIONS IN PEER REVIEWED JOURNALS

(Google Scholar profile: <http://bit.ly/1fyNRLC>)

underline indicates co-author who is/was a student, intern or fellow under my supervision

#### PUBLISHED

27. H.J. Esser, J.E. Foley, F. Bongers, E.A. Herre, **M.J. Miller**, H.H.T. Prins, P.A. Jansen. Host body size and the diversity of tick assemblages on Neotropical vertebrates. *In press*. ***International Journal for Parasitology: Parasites and Wildlife*** DOI: 10.1016/j.ijppaw.2016.10.001
26. **M.J. Miller**, H.J. Esser, J.R. Loaiza, E.A. Herre, C. Aguilar, D. Quintero, E. Alvarez, E. Bermingham. 2016. Molecular ecological insights into Neotropical bird-tick interactions. ***PLOS ONE*** 11(5): e0155989. DOI:10.1371/journal.pone.0155989
25. K. López<sup>†</sup>, C. Angelli<sup>†</sup>, C. Aguilar, J.R. Loaiza, L.F. DeLeón, **M.J. Miller**. 2016. Extreme mitogenomic divergence between two syntopic specimens of *Arremon aurantirostris* (Aves:

- Emberizidae) in central Panama suggests possible cryptic species. **Mitochondrial DNA**. DOI: 10.3109/19401736.2015.1066344 †[Villanova undergrads](#).
24. [C. Aguilar](#), L.F. De León, J.R. Loaiza, W.O. McMillan, **M.J. Miller**<sup>†</sup>. 2016. Extreme sequence divergence between mitochondrial genomes of two subspecies of White-breasted Wood-wren (*Henicorhina leucosticta* Cabanis, 1847) from western and central Panamá. **Mitochondrial DNA** DOI: 10.3109/19401736.2014.926503. †Corresponding author.
  23. J.R. Loaiza, [C. Aguilar](#), L.F. De León, W.O. McMillan, **M.J. Miller**<sup>†</sup>. 2016. Mitochondrial genome organization of the Ochre-bellied Flycatcher, *Mionectes oleagineus*. **Mitochondrial DNA** DOI: 10.3109/19401736.2014.919491. †Corresponding author.
  22. **M.J. Miller**, [C. Aguilar](#), L.F. De León, J.R. Loaiza, W.O. McMillan. 2016. Complete mitochondrial genomes of the New World jacanas: *Jacana spinosa* and *Jacana jacana*. **Mitochondrial DNA** DOI: 10.3109/19401736.2014.915530.
  21. **M.J. Miller**, G.R. Angehr, R.S. Ridgely, J. Klicka, [O.G. López Ch.](#), J. Arauz, E. Campos C., D.E. Buitrago-Rosas. 2015. Annotated checklist of the birds (Aves) of Cerro Hoya National Park, Azuero Peninsula, Panamá. **Checklist** 11:1585. DOI: 10.15560/11.2.1585.
  20. **M.J. Miller**, J.R. Loaiza. 2015. Geographic expansion of the invasive mosquito *Aedes albopictus* across Panama — Implications for control of dengue and Chikungunya viruses. **PLOS Neglected Tropical Diseases** 9(1): e0003383. DOI:10.1371/journal.pntd.0003383. **Coverage by the New York Times** (<http://nyti.ms/1fMaDT3>), **BBC News** (<http://bbc.in/1Ar2FWE>); **Time Magazine** (<http://ti.me/1DTeWla>), and **Smithsonian Magazine** (<http://bit.ly/1IEnbU9>).
  19. **M.J. Miller**, [S.E. Lipshutz](#), N.G. Smith, E. Bermingham. 2014. Genetic and phenotypic characterization of a hybrid zone between polyandrous Northern and Wattled Jacanas in western Panama. **BMC Evolutionary Biology** 14: 227. DOI:10.1186/s12862-014-0227-7.
  18. L. Rocha et al. (123 authors). 2014. Specimen collecting: an essential tool. **Science** 344: 814–815. DOI: 10.1126/science.344.6186.814.
  17. A. Santos M., [O.G. López Ch.](#), **M.J. Miller**. 2014. Hippoboscidae (Insecta: Diptera). Ectoparásitos en aves de Panamá, claves de identificación, hospederos y distribución. **Scientia** 24: 49–68.
  16. **M.J. Miller**. 2014. A distinctive avian assemblage in western Darién, Panamá is uncovered through a disease surveillance program. **International Journal of Tropical Biology and Conservation (Revista de Biología Tropical)** 62: 711–717.
  15. R.W. Bryson, J. Chaves, B.T. Smith, **M.J. Miller**, K. Winker, J. Pérez-Emán, J. Klicka. 2014. Diversification across the New World within the “blue” cardinalids (Aves: Cardinalidae). **Journal of Biogeography** 41: 587–599. DOI: 10.1111/jbi.12218.
  14. [W.G. Navia-Giné](#), J.R. Loaiza, **M.J. Miller**<sup>†</sup>. 2013. Mosquito-host interactions during and after an outbreak of Equine Viral Encephalitis in eastern Panama. **PLOS ONE** 8(12):e81788 DOI: 10.1371/journal.pone.0081788. †Corresponding author.
  13. P.R. Hosseini, T. Fuller, R. Harrigan, D. Zhao, C.S. Arriola, A. Gonzalez, **M.J. Miller**, X. Xiao,

- T.B. Smith, J.H. Jones, P. Daszak. 2013. Metapopulation dynamics enable persistence of Influenza A, including A/H5N1, in poultry. **PLOS ONE** DOI:10.1371/journal.pone.0080091.
12. J.R. Loaiza, E. Bermingham, O.I. Sanjur, **M.J. Miller**, L.C. Dutari, E. Rodríguez, E. Alvarez, P. Davis, J.R. Rovira, J. Pecor, D. Foley, P. Janzen, M. Radtke, M.J. Pongsiri. 2013. *Amblyomma tapirellum* (Acari: Ixodidae) collected from tropical forest canopy. **F1000 Research** DOI: 10.12688/f1000research.2-194.v2.
  11. J.R. Loaiza, **M.J. Miller**. 2013. Seasonal pattern of avian *Plasmodium* infected mosquitoes and implications for parasite transmission in central Panama. **Parasitology Research** 122: 3743–3751. DOI: 10.1007/s00436-013-3562-5.
  10. **M.J. Miller**, J.T. Weir, G.R. Angehr, P. Guitton M., E. Bermingham. 2011. An ornithological survey of Piñas Bay, a site on the Pacific coast of Darién Province, Panama. **Boletín SAO** 20: 29–38.
  9. O.G. López Ch., A. Santos M., C. Aguilar, D. Quintero A., **M.J. Miller**. 2011. Nuevo registro para Panamá de *Pelecitus helycinus* (Molin, 1860) (Filarioidea: Onchocercidae) como parásito subcutáneo del ave *Arremon aurantirostris* (Passeriformes: Emberizidae). **Tecnociencia** 13: 91–101.
  8. **M.J. Miller**, M. Lelevier, E. Bermingham, J. Klicka, P. Escalante, K. Winker. 2011. Phylogeography of the Rufous-tailed Hummingbird (*Amazilia tzacatl*). **Condor** 113: 806–816.
  7. J.C. Chaves, A.M. Cuervo, **M.J. Miller**, C.D. Cadena. 2010. Revising species limits in a trans-Andean group of *Myrmeciza* antbirds reveals a cryptic species within *M. laemosticta* (Thamnophilidae). **Condor** 112: 718–730.
  6. **M.J. Miller**, E. Bermingham, K. Winker. 2010. Neotropical birds show a humped distribution of genetic diversity along a latitudinal transect. **Ecology Letters** 13: 576–586.
  5. M.I. Núñez-C., T. Arias, C. Rigg, C. Ramos, **M.J. Miller**. 2009. Allele frequency distributions of nine loci STRs in Panamanian mestizos. **Ciencia forense** 9–10: 107–116.
  4. J.T. Weir, E. Bermingham, **M.J. Miller**, J. Klicka, M.A. González. 2008. Phylogeography of a morphologically diverse Neotropical montane species, the Common Bush-Tanager (*Chlorospingus ophthalmicus*). **Molecular Phylogenetics and Evolution** 47: 660–664.
  3. **M.J. Miller**, E. Bermingham, J. Klicka, P. Escalante, F.S. Raposo do Amaral, J.T. Weir, K. Winker. 2008. Out of Amazonia again and again: episodic crossing of the Andes promotes diversification in a lowland flycatcher. **Proceedings of the Royal Society B** 275: 1133–1142.
  2. **M.J. Miller**, E. Bermingham, R.E. Ricklefs. 2007. Historical biogeography of the New World Solitaires *Myadestes* (Turdidae). **Auk** 124: 868–885.
  1. F.S. Raposo do Amaral, **M.J. Miller**, L.F. Silveira, E. Bermingham, A. Wajntal. 2006. Polyphyly of the hawk genera *Leucopternis* and *Buteogallus* (Aves, Accipitridae): multiple habitat shifts during the Neotropical buteonine diversification. **BMC Evolutionary Biology** 6:10.

## UNDER REVIEW

2. **M.J. Miller**, G.R. Angehr, C.M. Blewett, I. Ochoa, R.T. Brumfield. Taxonomic status and phylogenetic affinities of *Leptotila battyi* Rothschild 1901 (Aves: Columbidae). *In revision*.
1. **M.J. Miller**, E. Bermingham, A.B. Johnson, B.L. Turner, J.C. Touchon, K. Winker. Demographics of foraging ecology explain genetic diversification in Neotropical bird species. *In revision*.

## IN PREP

7. G.A. Eskildsen, J.R. Rovira, K.L. Bennett, W.O. McMillan, **M.J. Miller**, J.R. Loaiza. Maternal invasion history of *Aedes aegypti* and *Aedes albopictus* into the Isthmus of Panama: implications for the control of Dengue, Chikungunya and Zika arboviruses.
6. **M.J. Miller**, J.L. Garzón, O. López Ch., D. Buitrago-Rosas. A new species in the Variable Mountain-gem complex (Trochilidae: *Lampornis*) from Cerro Hoya, Panama
5. J.L. Mortensen, **M.J. Miller**, J.M DaCosta, J.-R. Gros-Désormeaux, T. Lasales, G.A. Tayalay, R.L. Curry, J.M. Reed, M.D. Sorenson. Clear differentiation between and within island races of the White-breasted Thrasher, an endangered Neotropical songbird
4. **M.J. Miller**, C. Aguilar, C.D. Cadena, J.L. Pérez-Emán, R.T. Brumfield, E. Bermingham, K. Olsen, J.R. Loaiza, P. Escalante, K. Winker. Extreme phylogeographic structure and cryptic species in the White-breasted Wood-Wren (*Henicorhina leucosticta*) complex, a widespread Neotropical forest passerine.
3. J.R. Loaiza, **M.J. Miller**. Last Glacial Maximum refugia and niche diversification explain the micro-phylogeographic pattern of the forest-specialist and secondary malaria vector, *Anopheles punctimacula* s.l., in southern Central America.
2. **M.J. Miller**, D. Buitrago-Rosas. Species limits in the Variable Mountain-gem complex.
1. **M.J. Miller**, J.M. DaCosta, J.L. Mortensen, J.M. Reed, R.L. Curry, M.D. Sorenson. A genomic-level phylogeny clarifies the ecological, evolutionary, and biogeographic relationships among West Indian tremblers and thrashers (Aves: Mimidae)

## **BOOK REVIEWS, TECHNICAL REPORTS, AND OTHER PUBLICATIONS**

4. **M.J. Miller**. 2011 [Review of] The Birds of Panama: A Field Guide. *Wilson Journal of Ornithology* 123: 856–858.
3. **M.J. Miller**. 2010. [Review of] The Birds of the Republic of Panama, Part 5. Gazetteer and Bibliography. *Wilson Journal of Ornithology* 120: 196–205.
2. S. Woltmann, R.S. Terrill, **M.J. Miller**, M.L. Brady. 2009. Chestnut-backed Antbird (*Myrmeciza exsul*). *Neotropical Birds Online* (T.S. Schulenberg, Ed.). Ithaca: Cornell Lab of Ornithology.

1. R. List, O. Moctezuma, **M.J. Miller**. 1998. What to protect in Chihuahua and Sonora. pp. 82 – 89. in *Cross border waters: fragile treasures for the 21st century*. **USDA Forest Service Proceedings RMRS-P-5**.

## FELLOWSHIPS, GRANTS, CONTRACTS, AND AWARDS

21. NSF Macrosystems: Testing abiotic drivers of activity, abundance, and diversity of ground-dwelling arthropod communities at a continental scale. (*submitted*; \$1,509,000, Co-PI)
20. NIH Fogarty D43 Training Grant in Infectious Disease Ecology: Bolivian training in arboviruses, with a focus on arthropod transmission and Zika virus (*submitted*; \$1,000,000, Co-PI)
19. NIH supplement to R.H. Gilman, Fogarty D43 Training Grant: Infectious diseases training program in Bolivia: South-South Training with Peru. 2016-2017. (Co-PI; \$54,000)
18. Senacyt (Panamá) Award: Demographic connectivity and gene flow among the mosquito vectors of Dengue and Chikungunya viruses: *Aedes aegypti* and *Aedes albopictus* in Panama. FID14-IP-085. 2015-2017 (\$65,000, Co-PI)
17. ASU – STRI Cooperative Bioinformatics Grant: An extensible strategy to integrate biodiversity data repositories and evolving research and outreach goals at STRI. 2013–2014. (\$280,000, PI)
16. Renewal Award: NIH Award: Dynamics of cross-species influenza transmission. 2011. (\$200,000)
15. Smithsonian Grand Challenges Award for: Tropical vertebrate diversity loss and the emergence of tick-borne diseases: a pilot to develop SIGEO for monitoring wildlife and diseases. 2011-2012 (\$100,000, one of 13 co-investigators)
14. Smithsonian Barcoding Initiative: DNA barcodes of Panamanian vertebrates. 2011. (\$50,000, PI)
13. Smithsonian Barcoding Initiative: DNA barcodes of the arthropod disease vectors of Panama. 2011. (\$11,000, PI)
12. Renewal Award: CDC Inter-Agency Award for: Effect of Anthropogenic Climate Change on the Ecology of Zoonotic and Vector-borne Diseases. 2010. (\$103,000, Co-investigator subcontract: \$23,000)
11. Renewal Award: NIH Award: Dynamics of Cross Species Influenza Transmission. 2010. (\$200,000, Co-PI)
10. CDC Inter-Agency Award: Effect of Anthropogenic Climate Change on the Ecology of Zoonotic and Vector-borne Diseases. 2009. (\$185,000, Co-Investigator subcontract: \$60,000)

9. Smithsonian Institute Molecular Evolution Fellowship. 2009. (\$94,000)
8. NIH Award: Dynamics of Cross Species Influenza Transmission. 2008. (\$200,000, Co-PI)
7. Smithsonian Tropical Research Institute Pre-Doctoral Fellowship. 2007. (\$25,000)
6. Smithsonian Tropical Research Institute Research Contract: Proyecto Gavilán: Inventory of the birds of Upper Rio Changuinola, Panama. 2007. (\$30,000)
5. National Science Foundation Travel Award for NAOC Meeting. 2006. (\$1,000)
4. American Museum of Natural History Frank M. Chapman Memorial Fund Grant. 2006. (\$2,500)
3. American Museum of Natural History Frank M. Chapman Memorial Fund Grant. 2002. (\$2,000)
2. University of Alaska Angus Gavin Memorial Bird Research Grant. 2002. (\$10,000)
1. American Museum of Natural History Frank M. Chapman Memorial Fund Grant. 2001. (\$1,000)

## **COURSES TAUGHT**

2016 Spring. *Evolution* (BIOL 4305) Department of Biology, Villanova University

2015 Fall. *Ecology* (BIOL 3255) Department of Biology, Villanova University

2015 Spring. *Evolution* (BIOL 4305) Department of Biology, Villanova University

## **SUPERVISED STUDENT THESES (LEAD)**

8. Krisangel López. MS Student. University of Oklahoma. Ongoing. *Enzootic disease ecology across and urban-forest landscape gradient in eastern Panama.*
7. Kevin Hawkins. PhD Student. University of Oklahoma. Ongoing. Aug 2016. *Avian hybridization genomics.*
6. Celestino Aguilar. PhD Student. INDICASAT. Ongoing. *Target capture genomics of birds and fish in Panama.*
5. Oscar G. López Ch. MS. Universidad Marítima Internacional de Panamá. 2014. *Biomonitoring of heavy metals in shorebirds.*
4. Jorge Garzón, Licenciatura (BS Honors). Universidad de Panamá. 2014. *Using morphometrics to determine species status of two species of cryptic forest passerines in Panama.*
3. Ana M. Jiménez. MS. Universidad de Panamá. 2013. *Diet variation in obligate versus facultative avian insectivores from central Panama.*
2. Rochelle Rozette. Licenciatura (BS). Universidad de San Martín de Panamá. 2010. *Taxonomic causes of variation in quality of avian DNA barcode sequences.*

1. Fabiana Sanjur. Licenciatura (BS). Universidad de San Martín de Panamá. 2010. *Taxonomic causes of variation in quality of avian DNA barcode sequences.*

### **SUPERVISED INTERNS AND FELLOWS (LEAD)**

All interns and fellows were supervised at STRI, and funded by either a competitive fellowship or my research funds

16. Jorge Medina (Undergraduate, Panama) Collection volunteer, 2014. Ornithological specimen preparation. *Jorge continues to work in the STRIBC.*
15. Pedro Castillo (Undergraduate, Panama) Collection volunteer, 2014. Ornithological specimen preparation. *Pedro is now doing an undergraduate thesis on the distribution limits of montane birds in west central Panama taxa and continues to work in the STRIBC.*
14. Sara Lipshutz (Post-Undergraduate, USA) STRI Ernst Mayr Short Term Fellow 2012. Behavioral Ecology of Northern and Wattled Jacana Hybridization. *Sara is now a PhD student at Tulane University where she won an NSF Predoctoral Fellowship to continue working on jacana behavioral genomics.*
13. Celestino Aguilar (Undergraduate, Panama) STRI Short-term intern. 2012. DNA barcoding of birds and their parasites and pathogens. *Celestino is now a PhD student at INDICASAT.*
12. Daniel Buitrago (Undergraduate, Panama) Short-term intern 2012. Biological collections management. *Daniel now works as a research technician at STRI.*
11. José Alejandro Ramírez (Undergraduate, Colombia) STRI Short-term intern 2012. Biological collections management. *Alejandro continues studying biology at the University of Panama.*
10. Jorge Garzón (Undergraduate, Panama) Short-term intern. 2012. Biological collections management. *Jorge is now a research technician at the Gorgas Memorial Laboratories.*
9. Betzaida Toribio (Undergraduate, Panama) Short-term intern 2012. Biological collections management. *Betzaida continues studying biology at the University of Panama.*
8. Claudia Rosales (Graduate, Colombia) Short-term intern 2011. AFLPs of avian contact zones in Panama. *Claudia now is a genomics technician in Texas.*
7. Andrea Baquero (Post-Undergraduate, Colombia) Short-term intern 2010: CDC Field Expeditions and Multi-locus Historical Demography of *Amazilia handleyi*. *Andrea completed a Master's at the University of Copenhagen.*
6. Oscar G. López Ch. (Post-Undergraduate, Panama) Short-term intern 2008: Avian Influenza Project. *Oscar is a research technician at the University of Panama.*
5. Paula Pulido (Post-Undergraduate, Colombia) Short-term intern 2008: Historical Biogeography of the southern *Selasphorus*. *Paula is a PhD student at the University of Toronto.*
4. Jorge Avendaño (Post-Undergraduate, Colombia) Short-term intern 2008: Gavilan Project Field Expeditions. *Jorge received a Master's at the Universidad de los Andes and is now an*

*instructor at the Universidad de los Llanos.*

3. Ana M. Jiménez (Post-Undergraduate, Panama) Short-term intern 2008. Ornithological specimen preparation. *Ana Maria completed her Master's in the STRIBC and is now a professor at the University of Panama.*
2. Mélida Núñez (Undergraduate, Panama) Short-term intern 2007: Phylogeography of *Myrmeciza exsul*. *Mélida obtained a Master's at the University of Costa Rica and is a PhD student in Germany.*
1. Michael Lelevier (Graduate, USA) Short-term intern 2007: Comparative phylogeography of Mesoamerican Birds. *Mike's work resulted in a Master's at the University of Alaska Fairbanks, and he went on to a PhD program at the University of New Mexico.*

### **INVITED SEMINARS AND SYMPOSIA**

- 2016 Invited speaker, 5th Pan-Dengue Meeting, Panama City, Panama
- 2015 Invited speaker, Biology Department, Lawrence University
- 2015 Invited speaker, National Forensics Laboratory, US Fish and Wildlife Service
- 2015 Invited speaker, Biology Department, University of Oklahoma
- 2015 Invited speaker, Cleveland Museum of Natural History
- 2014 Invited speaker, Eco-epidemiology Workshop, Senacyt Panama
- 2014 Invited speaker, Disease Ecology Symposium, Gorgas Institute / STRI
- 2012 Keynote speaker, XVI Congress of the Mesomaerican Society for Biology and Conservation
- 2011 Symposium coordinator and invited speaker, IX Neotropical Ornithological Conference
- 2011 Invited speaker, Department of Vertebrate Zoology, National Museum of Natural History
- 2011 Invited speaker, Undergraduate Bioferia Symposium, University of Panama
- 2010 Invited speaker, Department of Biology, Occidental College
- 2010 Invited speaker, Department of Biology, Swarthmore College
- 2008 Invited speaker, 80th Anniversary Symposium, Gorgas Memorial Institute
- 2006 Invited speaker, Influenza Pandemic Symposium, Department of HHS (USA)/Ministerio de Salud (Panama)

### **DEPARTMENTAL SEMINARS**

- 2015 Seminar-series speaker, Villanova Department of Biology Seminar
- 2012 Seminar-series speaker, Smithsonian Tropical Research Institute
- 2010 Seminar-series speaker, Smithsonian Tropical Research Institute, 2010
- 2009 Seminar-series speaker, Smithsonian Tropical Research Institute, 2009
- 2007 Seminar-series speaker, University of Alaska Fairbanks, Department of Biology and Wildlife
- 2006 Seminar speaker, Harvard University, Museum of Comparative Biology
- 2000 Seminar-series speaker, University of Arizona, Department of Latin American Studies
- 2000 Seminar-series speaker, University of Arizona, Department of Ecology & Evol. Biology

### **CONTRIBUTED PRESENTATIONS**

- 2015 American Ornithologists Union, Norman

2015 Society for Systematic Biology, Ann Arbor  
2014 American Ornithologists Union, Estes Park  
2013 American Ornithologists Union, Chicago  
2012 Society for the Study of Evolution, Portland  
2009 International Barcode of Life Conference, Mexico City  
2009 American Ornithologists Union, Philadelphia  
2007 Neotropical Ornithological Conference. Maturín, Venezuela  
2006 North American Ornithological Conference. Veracruz, Mexico  
2006 Society for the Study of Evolution, Long Island  
2005 Society for the Study of Evolution, Fairbanks  
2004 American Ornithologists Union, Quebec City  
2002 Alaska Bird Conference, Fairbanks 2002

### **INSTITUTIONAL SERVICE**

2015 Reader, Honor Thesis, Biology Department, Villanova University  
2015 Biology Graduate Research Award Committee, Villanova University  
2015 Biology Undergraduate Research Award Committee, Villanova University  
2012 – 2014 Head of Natural History Collections, Smithsonian Tropical Research Institute  
2008 – 2015 Founder & de facto Curator Smithsonian Tropical Research Institute Bird Collection  
2002 – 2008 Curatorial Assistant, Bird Collection, University of Alaska Museum

### **ORNITHOLOGICAL FIELD EXPERIENCE**

Oklahoma (eastern and western) 2016  
Panama (over 50 field sites): 2002 – 2013  
Peru (Pacific coast, Andes, and Amazon rainforest): 2004, 2006  
Alaska (Boreal Forest and Tundra): 2002  
Ecuador (Pacific and Amazon rainforest): 1999 – 2001

Ornithological specimens deposited in Museo Ecuatoriano de Ciencias Naturales, Quito, Ecuador; University of Alaska Museum; Fairbanks, Alaska; Museo de Historia Nacional, Universidad San Marcos, Lima, Peru; Museo de Vertebrados, Universidad de Panama, Panama, Panama; Burke Museum of Natural History, Seattle, Washington; LSU Museum of Zoology, Baton Rouge, Louisiana; Cornell Laboratory of Ornithology, Ithaca, New York, Smithsonian Tropical Research Bird Collection, Balboa, Panama, Oklahoma Museum of Natural History, Norman, Oklahoma.

### **PROFESSIONAL SERVICE**

2015 – Associate Editor, *Axios Review*  
2012 – 2014 Associate Editor, *The Condor: Ornithological Applications*

peer review: *Auk* (2), Austrian Science Fund (1), *Axios Review* (1), *BMC Evolutionary Biology* (1), *Biological Journal of the Linnean Society* (1), Centre National de la Recherche Scientifique France Nouragues Research Grants Program (1), *Condor* (2), *Evolution* (1), *Ibis* (1), *Journal of Avian*

*Biology (1), Molecular Ecology (1), Molecular Phylogenetics and Evolution (2), Wilson Journal of Ornithology (1)*

## **PROFESSIONAL SOCIETY MEMBERSHIPS**

American Ornithologists' Union, Association of Field Ornithologists, Cooper Ornithological Society, Neotropical Ornithological Society, Society for the Study of Evolution, Society for Conservation Biology

## **CONSERVATION EXPERIENCE**

1997 – 1999 Mesoamerican Program Coordinator. *The Wildlands Project*, Tucson, AZ.

## **MISCELLANEOUS**

Fluent in Spanish (ILR Level 4)