

# Curriculum Vitae

---

**Gregory Thom, Ph.D.**

Chapman Postdoctoral Fellow  
Department of Ornithology, Division of Vertebrate Zoology  
American Museum of Natural History  
Central Park West at 79th Street  
New York, NY 10024-5192  
gthomesilva@amnh.org  
<https://gregorythom.github.io/>

## **Education**

2014-2018 - Ph.D., Genetics and Evolutionary Biology, University of São Paulo, São Paulo-SP, Brazil  
2010-2013 - M.S., Zoology, Federal University of Para, Belem-PA, Brazil  
2006-2010 - B.S. Biology, Regional University of Blumenau, Blumenau-SC, Brazil

## **Professional and Research Experience**

2019-Current - Postdoctoral fellow  
Chapman Postdoctoral Fellow, Department of Ornithology, Division of Vertebrate Zoology  
American Museum of Natural History, New York, NY – USA  
Supervisor: Brian T. Smith, PhD  
Research focus: Speciation with gene flow in Amazonian Birds

2018 - 2019 - Research Scholar  
American Museum of Natural History, New York, NY – USA  
Principal Investigator: Brian T. Smith, PhD  
Research focus: Comparative Phylogeography of Atlantic Forest montane birds

2018-2019 - Postdoctoral fellow  
Bioscience Institute, University of Sao Paulo, São Paulo-SP, Brazil  
Principal Investigator/Advisor: Cristina Yumi Miyaki, PhD  
Research focus: Comparative Phylogeography of Atlantic Forest montane birds

2016-2017 - Research Scholar  
Biology Department, The City University of New York, New York, NY  
Principal Investigator: Michael Hickerson, PhD  
Research focus: Comparative phylogeography of three "varzea" forest bird lineages: surveying new biogeographic patterns for Amazonia.

2014-2018 - Ph.D. Graduate Student  
Bioscience Institute, University of São Paulo, São Paulo-SP, Brazil  
Principal Investigator/Advisor: Cristina Yumi Miyaki, PhD

Thesis Title: “Comparative phylogeography of three lineages of Birds restricted to the flooded forest: accessing biogeography patterns for Amazonia based on Ultra Conserved Elements.”

2010-2013 - Masters Graduate Student

Museu Paraense Emílio Goeldi, Federal University of Pará, Belém-PA, Brazil

Principal Investigator: Alexandre Aleixo, PhD

Thesis Title: Cryptic speciation in the white-shouldered antshrike (*Thamnophilus aethiops*, Aves – *Thamnophilidae*): The tale of transcontinental radiation across rivers in lowland Amazonia and the northeastern Atlantic Forest.

## **Publications**

**Thom, G.;** Gehara, M.; Smith, B.; Miyaki, C. Y.; Raposo-do-Amaral, F. Microevolutionary dynamics show tropical valleys are deeper for montane birds of the Atlantic Forest. Nature Communications. Accepted for publication, 2021.

**Thom, G.;** Ribas, C.; Shultz, E.; Aleixo, A.; Miyaki, C. Y. Population dynamics of Amazonian floodplain forest specialists support spatial variation on genetic diversity but not range expansions through time. *BioRxiv* 2021/460077 - Submitted to Journal of Biogeography. 2021.

Raposo-do-Amaral, F.; **Thom, G.;** Lima-Ribeiro, M. S.; Alvarado-Serrano, D. F.; Montesanti, J. A. C.; Pellegrino, K.; Miyaki, C. M.; Hickerson, M. J.; Maldonado-Coelho, M. Rugged relief, and climate promote isolation and divergence between two neotropical cold-associated birds. Evolution. <https://doi.org/10.1111/evo.14318>, 2021.

**Thom, G.;** Smith, B. T.; M. Gehara; J. Montesanti; Lima-Ribeiro, M. S.; Piacentini, V. Q.; Miyaki, C. Y.; Amaral, F. R. Climatic Dynamics And Topography Control Genetic Variation In Atlantic Forest Montane Birds. Molecular Phylogenetics And Evolution, 148 – 106812, 2020.

Musher, L.; P. Galante; **Thom, G.;** J. Huntley; M. Blair. Shifting Ecosystem Connectivity During The Pleistocene Drove Diversification And Gene-flow In A Species-complex Of Neotropical Birds (*Tityridae*: *Pachyramphus*). Journal Of Biogeography. 106812, 2020.

**Thom, G.;** Xue, A. T.; Sawakuchi, A. O.; Ribas, C. C.; Hickerson, M. J.; Aleixo, A.; Miyaki, C. Quaternary Climate Changes As Speciation Drivers In The Amazon Floodplains. Science Advances, V. 6, P. Eaax4718, 2020.

Silva, S. M. ; Peterson, A. T. ; Carneiro, L. ; Burlamaqui, T. C. T. ; Ribas, C. a C. ; Sousa-neves, T. ; Miranda, L. S. ; Fernandes, A. M. ; D'horta, F. M. ; Araújo-silva, L. E. ; Batista, R. ; Bandeira, C. H. M. M. ; Dantas, S. M. ; Ferreira, M. ; Martins, D. M. ; Oliveira, J. ; Rocha, T. C. ; Sardelli, C. H. ; **Thom, G. ;** Rêgo, P. S. ; Santos, M. P. ; Sequeira, F. ; Vallinoto, M. ; Aleixo, A. A Dynamic Continental Moisture Gradient Drove Amazonian Bird Diversification. Science Advances, V. 5, P. Eaax5752, 2019.

Amaral, F R; Alvarado-Serrano, D; Maldonado-Coelho, M; Pellegrino, K C M; Miyaki, C Y; Montesanti, J A. C. Lima-Ribeiro, M S; Hickerson, M J; **Thom G.** Climate explains recent population divergence, introgression, and persistence in tropical mountains: phylogenomic evidence from Atlantic Forest warbling finches. *BioRxiv* <http://dx.doi.org/10.1101/439265>. 2018.

**Thom, G;** Amaral, F R; Hickerson, M J; Aleixo, A; Araujo-Silva, L E; Ribas, C C; Choueri, E; Miyaki, C Y Phenotypic and genetic structure support gene flow generating gene tree discordances in an Amazonian floodplain endemic species. Systematic Biology, 67: 700-718, 2018.

Amaral, F R; Maldonado-Coelho, M; Aleixo, A; Luna, L W; Rego, P; Araripe, J; Souza, T O; Silva, W A G; **Thom, G.** Recent chapters of neotropical history overlooked in phylogeography: shallow divergence explains phenotype and genotype uncoupling in *Antilophia* manakins. Molecular Ecology, 27: 4108-4120, 2018.

- Choueri, É L; Gubili, C; Borges, S H; **Thom, G**; Sawakuchi, AO; Soares, E A A; Ribas, C C. Phylogeography and population dynamics of antbirds (Thamnophilidae) from amazonian fluvial islands. *Journal of Biogeography*, 47:2284-2294, 2017.
- Buainain, N; Faria, S P; Seixas, L; **Thom, G**; Assis, C P. First record of the Hauxwell's thrush, *Turdus hauxwelli* Lawrence, 1869 (Aves: Turdidae) from Mato Grosso do Sul, Brazil, and geographic range extension. *Check List, Journal Of Species List And Distribution*, 13: 163-167, 2017.
- Svensson-Coelho, M; **Thom, G**; Santos, S S; Miranda, L S; Araujo-Silva, L E; Ricklefs, R E; Miyaki, C Y; Maldonado-Coelho, M. Lower detection probability of avian *Plasmodium* in blood compared to other tissues. *Journal Of Parasitology*, 16: 16-8r1, 2016.
- Thom, G**; Aleixo, A. Cryptic speciation in the white-shouldered antshrike (*Thamnophilus aethiops*, Aves - Thamnophilidae): the tale of a transcontinental radiation across rivers in lowland Amazonia and the northeastern Atlantic forest. *Molecular Phylogenetics And Evolution*, 82: 95-110, 2015.
- Lima, J L R; Soares, F A; Remedios, A C S; **Thom, G**; Wirthlin, M; Aleixo, A; Schneider, M P C; Mello, C V; Schneider, P N. A putative RA-like region in the brain of the scale-backed antbird, *Willisornis poecilinotus* (Furnariidae, Suboscines, Passeriformes, Thamnophilidae). *Genetics and Molecular Biology*, 38: 249-254, 2015.
- Areta, J I; Bodrati, A; **Thom, G**; Rupp, A E; Velazquez, M; Holzmann, I; Carrano, E; Zimmermann, C E. Natural history, distribution, and conservation of two nomadic seedeaters specializing on bamboo in the Atlantic forest. *Condor*, 115: 237-252, 2013.
- Mestre, L A M; **Thom, G**; Barlow, J; Cochrane, M A. The birds of reserva extrativista Chico Mendes, south Acre, Brazil. *Boletim Do Museu Paraense Emílio Goeldi. Ciências Naturais*, 5:1-31, 2010.
- Mestre, L A M; Barlow, J; **Thom, G**; Cochrane, M A. Burned forest as a novel habitat for the black-faced cotinga (*Conioptilon mcilhennyi*) in the western Brazilian Amazon. *Ornitologia Neotropical*, 20: 467-470, 2009.
- Legal, E; Kohler, G U; **Thom, G**; Cadorin, T J; Zimmermann, C E. Novas observações do gavião-pato, *Spizaetus melanoleucus* (Accipitridae) em Santa Catarina, Sul do Brasil. *Atualidades Ornitológicas*, 147:12-13, 2009.
- Rupp, A E; Fink, D; **Thom, G**; Zermiani, M; Zimmermann, C E; Laps, R R. Novas espécies de aves para o estado de Santa Catarina, Sul do Brasil. *Biotemas*, V. 21, P. 165-169, 2008.
- Brandt, C S; Kriek, C; Rupp, A E; Fink, D; **Thom, G**; Zimmermann, C E. Registros recentes de *Platyrinchus leucoryphus* (Wied, 1831) no Estado de Santa Catarina, Sul do Brasil. *Revista Brasileira De Ornitologia*, 16: 67-69, 2008.
- Rupp, A E; **Thom, G**; Laps, R R; Zimmermann, C E. Registros relevantes de aves campestres e aquáticas no planalto norte de Santa Catarina, Brasil. *Revista Brasileira De Ornitologia*, 16: 2008.
- Rupp, A E; Brandt, C S; Fink, D; **Thom, G**; Laps, R R; Zimmermann, C E. Registros de Caprimulgiformes e a primeira ocorrência de *Caprimulgus sericocaudatus* (bacurau-rabo-de-seda) no Estado de Santa Catarina, Brasil. *Revista Brasileira De Ornitologia*, 15: 605-608, 2007.

### **Book Chapters**

- Aleixo, A. ; Peterson, T. ; Araujo-silva, L. E. ; Bandeira, C. H. M. M. ; Batista, R. ; Burlamaqui, T. ; Dantas, S. ; Fernandes, A. M. ; Ferreira, M. ; Martins, D. ; Rego, P. ; Ribas, C. C. ; Rocha, T. C. ; Santos, M. P. D. ; Sardelli, C. ; Sequeira, F. ; Soares, L. M. S. ; Sousa, B. R. S. ; Sousa, S. A. ; Sousa-neves, T. ; **Thom, G.**; Vallinoto M. Instabilidade climática e diversificação de espécies na Amazônia.. In: Thaise Emilio; Flávio Luizão. (Org.). **Cenários para a Amazônia : clima, biodiversidade e uso da terra**. 1ed. Manaus: INPA, 2014, v. 1, p. 43-53.

## **Poster Presentations**

Ahmad, M.; **Thom, G.** A draft avian tree of life. American Ornithological Society Meeting 2021

Nuss, A.; **Thom G.**; Miyaki, C. M. Filogeografia e padrões de diversificação de *Myiothlypis leucoblephara*, passeriforme endêmico da floresta atlântica. XXV Congresso Brasileiro de Ornitologia - Joao Pessoa, Paraiba, Brasil 2018.

**Thom, G.**; Fazza, A. C.; Araujo-Silva, L.; Aleixo, A.; Ribas, C.; Choueri, E.; Miyaki, C. Diversification along with the Amazonian flooded forests: Phylogeography of the Ash-breasted Antbird (*Myrmoborus lugubris*), based on mtDNA. In: Evolution Meeting 2015, Guarujá. Evolution Meeting 2015.

**Thom, G.**; Anjos, L. J. S.; Aleixo, A. New insights on tropical forest dynamics in the Pleistocene via species distribution modeling: an essay with *Thamnophilus aethiops* (Aves: Thamnophilidae). In: IX Congresso de Ornitología Neotropical, 2011, Cusco. Anais do IX Congresso de Ornitologia Neotropical, 2011. v. 1.

**Thom, G.**; Aleixo, A. Vocal Variation in the polytypic white-shouldered Antshrike *Thamnophilus aethiops* Sclater, 1858 (Thamnophilidae): a preliminary assessment. In: IX Congresso de Ornitologia Neotropical, 2011, Cusco. Anais do IX Congresso de Ornitologia Neotropical, 2011. v. 1.

Mestre, L. A. M.; Cochrane, M. A.; Barlow, J.; Rechetelo, J.; **Thom, G.** Wildfires and Amazonian birds: a broad-scale and long-term study on the effects of fire on Amazonian bird communities and populations. In: IX Congresso de Ornitologia Neotropical, 2011, Cusco. Anais do IX Congresso de Ornitologia Neotropical, 2011. v. 1.

Mestre, L. A. M.; Rechetelo, J.; **Thom, G.**; Barlow, J.; Cochrane, M. A. Bird population condition in Amazonian forests: A comparison of fluctuating asymmetries, body weight and ectoparasite infestation in burned and unburned sites. In: IX Congresso de Ornitologia Neotropical, 2011, Cusco. Anais do IX Congresso de Ornitologia Neotropical, 2011. v. 1.

**Thom, G.**; Mestre, L. A. M. . Avifauna da reserva extrativista Chico Mendes, Sul do Acre, Brasil. In: XVII Congresso Brasileiro de Ornitologia, 2009, Vitória. Anais do XVII Congresso Brasileiro de Ornitologia, 2009. p. 97-97.

Rupp, A. E. ; **Thom, G.** ; Zimmermann, C. E. . Avifauna de um remanescente de Floresta Atlântica do Vale do Itajaí, Santa Catarina, Brasil. In: XVI Congresso Brasileiro de Ornitologia, 2008, Palmas. Resumos do XVI Congresso Brasileiro de Ornitologia, 2008. p. 130-130.

**Thom, G.**; Rupp, A. E. ; Legal, E. ; Fink, D. ; Zimmermann, C. E. . Dados preliminares da captura e marcação de aves de sub-bosque da APA das Ilhas Fluviais do Rio Itajaí-Açu, Santa Catarina. In: XVI Congresso Brasileiro de Ornitologia, 2008, Palmas. Resumos do XVI Congresso Brasileiro de Ornitologia. Palmas: Universidade Federal do Tocantins, 2008. p. 206-206.

Fink, D. ; Rupp, A. E. ; Brandt, C. S. ; **Thom, G.** ; Laps, R. R. ; Zimmermann, C. E. . A Avifauna do Parque Nacional da Serra do Itajaí (PNSI), Santa Catarina. In: XVI Congresso Brasileiro de Ornitologia, 2008, Palmas. Resumos do XVI Congresso Brasileiro de Ornitologia. Palmas: Universidade Federal do Tocantins, 2008. p. 289-289.

Fink, D. ; Rupp, A. E. ; Brandt, C. S. ; **Thom, G.** ; Zimmermann, C. E. . Anilhamento de aves no Parque Nacional da Serra do Itajaí, Santa Catarina. In: XVI Congresso Brasileiro de Ornitologia, 2008, Palmas. Resumos do XVI Congresso Brasileiro de Ornitologia. Palmas: Universidade Federal do Tocantins, 2008. p. 294-294.

Rupp, A. E. ; Zimmermann, C. E. ; **Thom, G.** ; Legal, E. . A avifauna da Reserva Biológica Estadual do Sassafrás, Santa Catarina, Brasil. In: Mostra Integrada de Ensino, Pesquisa e Extensão/MIPE, 2008, Blumenau. II Mostra Integrada de Ensino, Pesquisa e Extensão. Blumenau: FURB Editora, 2008. v. 14. p. 3-3.

Legal, E. ; Zimmermann, C. E. ; Kohler, G. U. ; **Thom, G.** ; Cadorin, T. J. ; Rupp, A. E. . A importância do anilhamento de aves: Resultados preliminares da captura e marcação em dois ambientes da Reserva Particular do Patrimônio Natural (RPPN) Chácara Edith, Brusque, Santa Catarina.. In: Mostra Integrada de Ensino, Pesquisa e Extensão/MIPE, 2008, Blumenau. II Mostra Integrada de Ensino, Pesquisa e Extensão. Blumenau: FURB Editora, 2008. v. 14. p. 7-7.

**Thom, G.**; Zimmermann, C. E. ; Rupp, A. E. ; Fink, D. ; Legal, E. . Aves da Área de Preservação Ambiental Municipal das Ilhas Fluviais do Rio Itajaí-Açu, Santa Catarina - Brasil. In: Mostra Integrada de Ensino, Pesquisa e Extensão/MIPE, 2008, Blumenau. II Mostra Integrada de Ensino, Pesquisa e Extensão. Blumenau: FURB Editora, 2008. v. 14. p. 31-31.

Legal, E. ; Zimmermann, C. E. ; Cadorin, T. J. ; **Thom, G.** ; Kohler, G. U. ; Rupp, A. E. . Novas informações sobre a avifauna da Reserva Particular do Patrimônio Natural (RPPN) Chácara Edith, Brusque, Santa Catarina.. In: Mostra Integrada de Ensino, Pesquisa e Extensão/MIPE, 2008, Blumenau. II Mostra Integrada de Ensino, Pesquisa e Extensão. Blumenau: FURB Editora, 2008. v. 14. p. 84-84.

**Thom, G.**; Rupp, A. E. ; Zimmermann, C. E. . Aves raras e ameaçadas de extinção em pequenos fragmentos florestais ao longo do rio Itajaí-Açu, Santa Catarina, Brasil. In: XV Congresso Brasileiro de Ornitologia, 2007, Porto Alegre, RS. Resumos do XV Congresso Brasileiro de Ornitologia, 2007.

**Thom, G.**; Rupp, A. E. ; Zimmermann, C. E. . Registros notáveis para a avifauna do Vale do Itajaí, Santa Catarina, Brasil. In: XV Congresso Brasileiro de Ornitologia, 2007, Porto Alegre. Programa e Livro de Resumos do XV Congresso Brasileiro de Ornitologia. Porto Alegre: Edipucrs, 2007. p. 148-149.

Rupp, A. E. ; Brandt, C. S. ; Fink, D. ; Kriech, C. ; **Thom, G.** ; Zimmermann, C. E. . Estudo de uma comunidade de Aves de sub-bosque da Floresta Atlântica de Santa Catarina.. In: I Mostra Integrada de Pesquisa e Extensão, 2007, Blumenau. Resumos MIPE/07, 2007.

Rupp, A. E. ; **Thom, G.** ; Zimmermann, C. E. . Uma nova IBA para o Estado de Santa Catarina - uma proposta.. In: XV Congresso Brasileiro de Ornitologia, 2007, Porto Alegre. Programa e Livro de Resumos do XV Congresso Brasileiro de Ornitologia. Porto Alegre: Edipucrs, 2007. p. 225-225.

**Thom, G.**; Zimmermann, C. E. . Riqueza de Aves da APA das Ilhas Fluviais do Rio Itajaí-Açu, Blumenau, Santa Catarina. In: I Mostra Integrada de Pesquisa e Extensão, 2007, Blumenau. Anais da I Mostra Integrada de Pesquisa e Extensão. Blumenau: Editora FURB, 2007. v. 1. p. X-x.

Rupp, A. E. ; **Thom, G.** ; Zimmermann, C. E. . Registros documentados de Aves raras em Santa Catarina, Brasil.. In: XV Congresso Brasileiro de Ornitologia, 2007, Porto Alegre. Programa e Livro de Resumos do XV Congresso Brasileiro de Ornitologia. Porto Alegre: Edipucrs, 2007. p. 94-95.

**Thom, G.**; Rupp, A. E. ; Zimmermann, C. E. . Riqueza de aves da APA das ilhas fluviais do rio Itajaí-Açu, Blumenau, Santa Catarina. In: XIV Congresso Brasileiro de Ornitologia, 2006, Ouro Preto MG. Resumos do XIV congresso Brasileiro de Ornitologia, 2006.

### **Oral presentations and invited talks**

**Thom G.** Phenotypic and genetic structure supports cladogenesis and introgression in an Amazonian flooded forest specialist, the Ashbreasted Antbird species complex. Evolution meeting - Austin, Texas, 2016.

**Thom, G.** Comparative phylogeography of Amazonian floodplain forest Birds. Ecology and Evolutionary Biology (EEB) Symposium. American Museum of Natural History 2017 (Invited Talk).

**Thom, G.** New tales for the Amazonian biogeography: Overlooked floodplain forest birds support climatic oscillation in Pleistocene as a driver for speciation in the Amazon. Ornithological Congress of the Americas - Puerto Iguazu, Misiones, Argentina, 2017

**Thom, G.** Estrutura de populações de três Thamnofílídeos restritos ao Rio Solimões. Simpósio: Navegações ornitológicas do século 21 na Amazônia: (re) descobrindo as várzeas – Genética de populações e filogeografia. XXV Congresso Brasileiro de Ornitologia. João Pessoa, Paraíba, Brasil 2018 (Invited Talk).

**Thom, G.** Corredores ou barreiras? A história de rios Amazônicos e a diversificação de aves associadas a ambientes alagáveis. Universidade Federal de São Paulo - Campus Diadema. São Paulo, São Paulo, Brasil. 2018 (Invited Talk).

**Thom, G.** Population dynamics of montane Bird species are associated with a narrow latitudinal gradient in the Atlantic Forest. Society of Systematic Biologists Meeting - Gainesville, Florida, 2020

**Thom, G.** Recombination controls biogeographic structuring in Amazonian birds. Evolution Meeting 2021

**Thom, G.** Riverscape dynamics shape microevolutionary processes across Amazonian floodplains. American Ornithological Society Meeting 2021

### **Journal Peer Reviewer**

2018-Current - Systematic Biology

2017-Current - Molecular Phylogenetics And Evolution

2018-Current - The Auk

2019-Current - Journal of Biogeography

2016-Current - Brazilian Journal of Ornithology

2020-Current - Landscape Ecology

2020-Current - Biological Journal of the Linnean Society

2020-Current – Biology Letters

### **Grants and fellowships**

2014-2018 - São Paulo Research Foundation FAPESP. Comparative phylogeography of three lineages of Birds restricted to the flooded forest: accessing biogeography patterns for Amazonia based on Ultra Conserved Elements. The approximate amount in U\$: 50,934.00.

2016-2017 - São Paulo Research Foundation FAPESP. Comparative phylogeography of three "varzea" forest bird lineages: surveying new biogeographic patterns for Amazonia. The approximate amount in U\$: 30,117.00.

2018-2019 - São Paulo Research Foundation FAPESP. Comparative phylogeography of montane bird species from southern Atlantic Forest: Integrating evolutionary and ecological traits in the study of community assemblage. The approximate amount in U\$:18,105.00

2019-2019 - São Paulo Research Foundation FAPESP. Comparative phylogeography of montane bird species from southern Atlantic Forest: Integrating evolutionary and ecological traits in the study of community assemblage. The approximate amount in U\$:38,584.00

2019-Current - Franck Chapman Memorial Fund Postdoctoral fellowship of the American Museum of Natural History. Fellowship amount (3 years)in U\$: 171,000.00; Approved additional expenses in U\$: 33,000.00.

2020-current - Explorer21 of the American Museum of Natural History. Exploring the evolution of chemical defense in Amazonian birds. The total amount in U\$: \$77,930.00.

### **Mentoring and committee participation**

Masters thesis defense committee. Student: Tânia Fontes Quaresma. Filogeografia do complexo de espécies *Willisornis poecilinotus* / *vidua* (Aves: Thamnophilidae). 2020. Masters in Zoology – Federal University of Pará. Advisor: Alexandre Aleixo, PhD.

PhD. thesis defense committee. PhD. Student Nelson Buainain Neto. Padrões e processos evolutivos no Neotrópico, uma abordagem baseada em Aves Oscines (Passeriformes: Passeri). 2020. PhD. in Ecology – Instituto Nacional de Pesquisas na Amazônia. Advisor: Camila Cherem Ribas, PhD.

Co-advisor. Student: Camila Duarte. Genômica populacional e demografia histórica de uma comunidade de aves da mata atlântica montana: um teste da hipótese dos refúgios. 2017. Masters in Ecology and Evolution - Universidade Federal de São Paulo. Advisor: Fábio Raposo do Amaral, PhD.

### **Grant Peer Reviewer**

2020-Current - Czech Science Foundation

### **Research topics**

- Comparative Phylogeography
- Population genetics
- Phylogenomics

### **Technical Skills**

- Scientific writing and editing
- Supervised Machine Learning
- Grant writing
- Critical reading
- Study Design
- Bioinformatics
- Phylogenomic analyses
- Model-based approaches
- Machine learning
- Field expedition manager
- Taxidermy
- Bird collecting
- Curatorial assistant