

## CURRICULUM VITAE

Rafael Sobral Marcondes

Updated July 2024

### EDUCATION

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- 2021 Louisiana State University, Ph.D.  
Major: Biological Sciences (Systematics, Ecology and Evolution)  
Dissertation title: Micro- and Macroevolution of Drab Plumage Color in Birds  
Advisor: Robb T. Brumfield
- 2013 Universidade de São Paulo, M.Sc.  
Major: Biological Sciences (Zoology)  
Thesis title: Systematics and Taxonomy of the Genus *Aramides* (Aves: Gruiformes: Rallidae) Based on Phenotypic Characters  
Advisor: Luis Fabio Silveira
- 2009 Universidade de São Paulo, B.S.  
Major: Biological Sciences  
Thesis title: Osteology of *Tersina viridis* (Aves: Passeriformes), with systematic implications.  
Advisor: Luis Fabio Silveira

### FULL-TIME ACADEMIC APPOINTMENTS

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- July 2022-current **EEB Faculty Fellow (Huxley Fellow)**  
Rice University  
Department of BioSciences
- August 2021-June 2022 **Teaching Associate III**  
Louisiana State University  
Department of Biological Sciences  
Introductory Biology Program

### TEACHING EXPERIENCE

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BIOS 330, **Insect Biology Lab**, Rice University. **Instructor of record.** This course centers around students building their own small collections of insects collected on campus and locally in and around Houston. Students acquire skills in insect collection, preservation and identification. Conceptually, they learn about insect evolution, systematics and phylogenetics. For their lab reports, students conduct analyses of the phylogenetic and morphological diversity of their collections in the R programming language. 18 students.

BIOS 337, **Field Bird Biology Lab**, Rice University. **Instructor of record.** I have completely redesigned this to be a field-, discussion-, and lecture-based course aimed at introducing students to birds, teach basic identification skills for common birds in the Houston Metro area, and connect observations from the field with concepts in ecology and evolutionary biology. 11 students.

BIOL1208 **Biology Laboratory for Science Majors I**, Louisiana State University. Teaching assistant. **Fully online**, asynchronous (2020) or partially asynchronous (2021) class. Basic principles in experimental biology and the scientific method. Responsibilities: grading weekly self-completed student guides, fielding questions from students, assisting with development of assignments.

BIOL1208 **Biology Laboratory for Science Majors I**, Louisiana State University. Teaching assistant. Basic principles in experimental biology and the scientific method. Responsibilities: sole instructor for two lab sections with ~30 students each.

LSU BIOS program (**Biology Intensive Orientation for Students**).

BIOS is a program designed to help students make the transition to the expectations of college; as a mentor I was responsible for leading community-building activities for a group of c. 20 students over the course of one week.

BIOL1208 **Biology Laboratory for Science Majors II**, Louisiana State University. Teaching assistant. Basic principles in genetics, evolution, ecology and systematics. Responsibilities: sole instructor for two lab sections with ~30 students each.

BIOL2153 **Principles of Genetics**, Louisiana State University. Teaching assistant. Responsibilities: Developed and led reading and discussion-based class sections aimed at introducing students (sophomores) to the primary scientific literature in genetics.

BIZ0212 **Vertebrate Zoology**, Universidade de São Paulo. Teaching assistant. Responsibilities: setting up labs, answering questions, and aiding students with dissection of specimens.

## MENTORED UNDERGRADUATE STUDENTS \_\_\_\_\_

Brendan O'Loughlin. "Digest: When sexual selection hits the wall of natural selection", *Evolution*. Rice University. 2024.

Kayla Yao. Rice University Bird-Building collision monitoring project. Literature review, design of a monitoring protocol, coordination of a small team of student volunteers, outreach to students and university admin. Rice University. August 2022-present.

Nicolette Douvas. Macroevolution of bird mating systems; extracting behavioral data from community science videos. Rice University. 2022-2024.

Karla Chapa. Geographic plumage color variation in the Bright-rumped Atilla based on community science photos. Rice University. 2023.

Brandi Sun. Honors Thesis. Title: "Correlated evolution of plumage color across the sexes in antbirds (Thamnophilidae)". 2018-2019.

J. Tyler Howard. Undergraduate research. Title: "Geographic variation and discrete polymorphism in *Attila spadiceus* (Tyrannidae)". 2017-2018. Presented poster as first author at the 2018 American Ornithology Congress.

Ryan Klutts, William Matthews, Nellie Yelvington, Vincent Blanche, Madeleine Raymond, Catherine Johnson. Research assistants, Louisiana State University, 2015-2019.

**PUBLICATION METRICS** (Google Scholar) \_\_\_\_\_

Number of citations: 192

H-index: 7

**PUBLICATIONS IN PEER-REVIEWED JOURNALS** \_\_\_\_\_

\*=UNDERGRADUATE AUTHORS

V Cavarzere, TVV Costa, GS Cabanne, N Trujillo-Arias, **RS Marcondes**, LF Silveira. 2024 A new species of tanager (Aves: Thraupidae) from the Eastern slopes of the Andes. *Zootaxa* 5468:41-556

BS O'Loughlin\* and **RS Marcondes**. 2024. Digest: When sexual selection hits the wall of natural selection. *Evolution* 78: 1347–1348. Journal IF: 5.573.

**RS Marcondes**. 2024. Unraveling the Environment-Phenotype-Genotype Nexus: Successful Approaches from Bird Colors and How to Apply Them to Other Traits and Taxa. Accepted for publication, *Quarterly Review of Biology* 99:1. Journal IF: 6.5.

LJ Musher, G Del-Rio, **RS Marcondes**, RT Brumfield, GA Bravo, G Thom. Geogenomic predictors of genetree heterogeneity explain phylogeographic and introgression history: a case study in an Amazonian bird (*Thamnophilus aethiops*). Ahead of print, *Systematic Biology*. Journal IF: 9.160.

G Macedo, GA Bravo, **RS Marcondes**, EP Derryberry, C Biondo. 2022. The evolution of sex similarities in social signals: climatic seasonality is associated with lower sexual dimorphism and greater elaboration of female and male signals in antbirds (*Thamnophilidae*). *Evolution* 76: 2893-2915. Journal IF: 5.573.

**RS Marcondes**. 2022. Celebrating the great avian evolutionary tradition: Review of how birds evolve, by DJ Futuyma, Princeton & Oxford: Princeton University Press. *Evolution* 76: 1366-1369. Journal IF: 5.573.

G Macedo, GA Bravo, **RS Marcondes**, EP Derryberry, C Biondo. 2021. Differences in plumage coloration predict female but not male territorial responses in 3 antbird sister species pairs. *Animal Behavior* 182:107-124. Journal IF: 2.844.

**RS Marcondes**, JA Nations, GF Seeholzer and RT Brumfield. 2021. Rethinking Gloger's Rule: climate, light environments and color in a large family of tropical birds (*Furnariidae*). *The American Naturalist* 197(5). Journal IF: 3.85.

**RS Marcondes**, KF Stryjewski and RT Brumfield. 2020. Testing the simple and complex versions of Gloger's rule in the Variable Antshrike (*Thamnophilus caeruleus*, *Thamnophilidae*). *The Auk* 137(3). Journal IF: 2.659.

**RS Marcondes** and RT Brumfield. 2020. A simple index to quantify and compare the magnitude of intraspecific geographic plumage colour variation in typical antbirds (Aves: Passeriformes: *Thamnophilidae*). *Biological Journal of the Linnean Society* 130(2):238-246. Journal IF: 2.203.

**RS Marcondes**. 2019. Realistic scenarios of missing taxa in phylogenetic comparative methods and their effects on model selection and parameter estimation. *PeerJ* 7:e7917. Journal IF: 2.353.

**RS Marcondes** and RT Brumfield. 2019. Fifty shades of brown: Macroevolution of plumage brightness in the Furnariida, a large clade of drab Neotropical passerines. *Evolution* 73: 704-719. Journal IF: 5.573.

**RS Marcondes** and LF Silveira. 2015. A taxonomic review of *Aramides cajaneus* (Aves, Gruiformes, Rallidae) with notes on morphological variation in other species of the genus. *Zookeys* 500:111-140. Journal IF: 1.079.

**RS Marcondes**, G Del-Rio, MA Rego and LF Silveira. 2014. Geographic and seasonal distribution of a little-known Brazilian endemic rail (*Aramides mangle*) inferred from occurrence records and ecological niche modeling. *The Wilson Journal of Ornithology* 126(4):663-672. Journal IF: 0.538.

**RS Marcondes**, LF Silveira, DFN Oliveira, G Cardoso. 2013. Occurrence of hybrids between *Momotus momota* and *Baryphthengus ruficapillus* (Momotidae) in central Brazil. *The Wilson Journal of Ornithology* 125:674-679. Journal IF: 0.538.

V Cavarzere, M Lecroy, **RS Marcondes**, TVV Costa, LF Silveira. 2012. On the correct holotype and type locality of *Cercomacra sclateri* Hellmayr 1905 (Aves: Thamnophilidae). *Zootaxa* 3581:81-85. Journal IF: 0.931.

V Cavarzere, **RS Marcondes**, GP Moraes, RJ Donatelli. 2012. Comparação quantitativa da comunidade de aves de um fragmento de floresta semidecidual do interior do Estado de São Paulo em intervalo de 30 anos. *Iheringia Série Zoologia* 102:384-393

## PRE-PRINTS AND MANUSCRIPTS IN REVIEW OR IN REVISION FOR PUBLICATIONS IN PEER-REVIEWED JOURNALS

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\*=UNDERGRADUATE AUTHORS

**RS Marcondes**, N Douvas\*. Resource-defense polygamy-but not lekking-is a macroevolutionarily unstable trait in birds. In review, *Evolution*.

CM Eliason, **RS Marcondes**, MD Eaton, R Maia, KJ Burns, AJ Shultz. Constraint and innovation in color evolution among species and among plumage patches in five avian radiations. Biorxiv. biorxiv.org/content/10.1101/2023.08.02.551664v1. In review, *Proceedings of the Royal Society B*.

## CONTRIBUTED TALKS AT SCIENTIFIC MEETINGS

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RS Marcondes. 2023. Bird mating systems: sexual selection as a macroevolutionary ratchet? Evolution Meeting.

RS Marcondes, GA Bravo, B Faircloth, SV Edwards, RT Brumfield. 2021. The genomic landscape of Gloger's rule in a tropical passerine. Evolution Meeting.

RS Marcondes, RT Brumfield. 2019 Extraordinary plumage color variation and Gloger's rule in *Thamnophilus caeruleus*. American Ornithology Meeting.

RS Marcondes, RT Brumfield. 2018 Fifty Shades of Brown: evolution of plumage brightness in a large clade of Neotropical passerines. American Ornithology Meeting.

RS Marcondes, LF Silveira. 2012. Filogenia do gênero *Aramides* (Rallidae) com base em caracteres vocais e de plumagem. XIX Congresso Brasileiro de Ornitologia.

RS Marcondes, LF Silveira. 2011. Geographical variation in the song of the Gray-necked Wood-rail *Aramides cajanea* (Rallidae). IX Congreso de Ornitologia Neotropical.

## CONTRIBUTED POSTERS AT SCIENTIFIC MEETINGS \_\_\_\_\_

\*=undergraduate presenting author

RS Marcondes, RT Brumfield. 2018. Fifty Shades of Brown: evolution of plumage brightness in a large clade of Neotropical passerines. II Joint Congress on Evolutionary Biology.

JT Howard\*, RS Marcondes, RT Brumfield. 2018. Geographic variation and discrete polymorphism in *Attila spadiceus* (Tyrannidae). American Ornithology Meeting.

RS Marcondes, GA Bravo, RT Brumfield. 2016. Interspecific variation in plumage brightness in relation to light environment among antbirds. Evolution Meeting.

RS Marcondes, LM Lima, LF Silveira. 2012. Distribuição geográfica e sazonalidade em *Aramides mangle* (Rallidae). XIX Congresso Brasileiro de Ornitologia.

RS Marcondes, LF Silveira. 2010. Osteology of the New World nine-primaried Oscines - inferring relationships in a very diverse group of passerines. 25th International Ornithological Congress.

RS Marcondes, LF Silveira. 2009. Alguns caracteres interessantes do esqueleto de *Tersina viridis* (Passeriformes). XVII Congresso Brasileiro de Ornitologia.

## INVITED TALKS \_\_\_\_\_

Wake Forest University, 2024

Loyola University Chicago, 2022.

Rice University, 2022.

University of Houston, 2022.

University of Hawaii, 2022.

Princeton University, 2021.

Universidade Federal de Viçosa, 2021.

East Carolina University, 2021

## AWARDS AND FUNDING \_\_\_\_\_

2023 Brown Teaching Grant, Rice University. Title: “Acquisition of binoculars to enhance diversity, equity and inclusivity through field courses in ecology and evolutionary biology.” \$1,277.

2021 William H Gates Award for Excellence in Freshman Instruction. LSU Department of Biological Sciences.

- 2020 C. R. Komma Memorial Award for Outstanding International Graduate Student. LSU Department of Biological Sciences.
- 2019 Travel award. American Ornithological Society. \$570.
- 2018 Travel award. American Ornithological Society. \$400.
- 2018 Travel award. LSU Graduate Student Association. \$450.
- 2018 Travel award. Society for the Study of Evolution. \$500.
- 2018 Travel award. Society of Systematic Biologists. \$500.
- 2016 Ruth Patrick Award for best student poster at the annual American Society of Naturalists meeting.
- 2014 Science Without Borders international doctoral fellowship. Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Brazil. 2014-2018. (4-year stipend and \$20,000 research allowance.)
- 2012 Collection Study Grant. Frank M. Chapman Memorial Fund, American Museum of Natural History. \$1,000.
- 2011 M.Sc. research fellowship. Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Brazil.
- 2009 Undergraduate research fellowship. São Paulo Research Foundation (Fapesp), Brazil.

## **ACADEMIC SERVICE**

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Referee for: Brazilian Journal of Ornithology, Check List, Zoologia, The Wilson Journal of Ornithology, The Auk, Evolution, Canadian Journal of Zoology, Journal of Experimental Zoology Part B, Cotinga, Biological Journal of the Linnean Society, Current Zoology, Journal of Raptor Research, Journal of Ornithology, Molecular Ecology, Global Ecology and Biogeography, PLOS One, Proceedings of the Royal Society of London B, Evolutionary Ecology, Ardeola, Systematic Biology, Integrative and Comparative Biology, Scientific Reports, Waterbirds

Judge for Gulf Coast Undergraduate Research Symposium (2022, 2023).

Student advisory or examination committees: Diego F. Beltran (M.Sc., Universidad de Antioquia, 2021).  
Jonah Dominguez (B.Sc., Kenyon College, 2022).

Reviewer for the Society of Systematic Biologists' Graduate Student Research Awards proposals (2022, 2024)

Judge for the LSU Discover undergraduate research expo (2017, 2019, 2020, 2021).

Reviewer for the Society of Systematic Biologists' "Mini-ARTS" grant proposals (2019).

Member of the local organizing committee for the 2017 meeting of the Society of Systematic Biologists. (One of two students in the organizing committee; attendance to the conference was ~ 200 researchers.)

Coordinator of the LSU Museum of Natural Science weekly seminar series for the 2016-17 academic year. (Scheduled, organized and hosted 25 research seminars, including 14 out-of-campus speakers)

## **COMMUNITY AND OUTREACH SERVICE** \_\_\_\_\_

Gave talk on “The world’s most and least colorful birds” as part of the LSU Museum of Natural Science’s “Night at the museum” series. Audience: 87 adults. 2019.

Gave talk and led hands-on activities on “Dynamic DNA” as part of the LSU Museum of Natural Science “Special Saturday” series. Audience: ~20 six to ten year old children and their parents. 2018

Development of species accounts for 16 species of birds, mammals and plants to accompany the dioramas at the public exhibits of the LSU Museum of Natural Science (2017).

Gave talk and led hands-on activities on “Bird Coloration” as part of the LSU Museum of Natural Science “Special Saturday” series. Audience: ~20 six to ten year old children and their parents. 2017.

Participation in outreach events displaying specimens from the LSU Museum of Natural Science: Baton Rouge Earth Day Festival (2015 and 2016; thousands of attendants of all ages), LSU Geaux Science Welcome Event (2015; 116 attendants, mainly undergraduate students), LSU 6<sup>th</sup> Grade Day (1,644 attendants, 6<sup>th</sup> grade students), LSU Museum of Natural Science “Night at the Museum” event (3 times between 2016 and 2018, ~50 attendants each time, general public), LSU “Girls night at the Museum” event (2018, 34 attendants, 4<sup>th</sup>-6<sup>th</sup> grade girls).

Wrote posts for the Society for the Study of Evolution Community blog, the American Ornithological Society blog, and the American Society of Naturalists.

## **PROFESSIONAL REFERENCES** \_\_\_\_\_

Dr. Robb Brumfield, Louisiana State University  
Dr. Brant Faircloth, Louisiana State University  
Dr. Jeremy Brown, Louisiana State University.  
Dr. Scott Egan, Rice University  
Dr. Scott Solomon, Rice University