

TAINÁ ROCHA

I am a Brazilian researcher working on patterns of biodiversity distribution, focusing on the impacts of global change (climate change and land-use and land-cover change). My recent interests and work include: **1.** Analysis of climate data and land-use and land-cover data under different scenarios of climate change, **2.** Spatial analysis of species diversity (alpha and beta diversity), **3.** Ecological niche models/ species distribution models and other niche analyses to assess the impacts of global change on biodiversity, **4.** Biogeographic patterns and evolutionary history in the Neotropics.

Note: I use open-source tools and platforms. I am interested in good practices about open science (open databases, open software, etc.), good workflows, reproducibility and FAIR principles.

CV available in [Portuguese version here](#)



Online version available at https://tai-rocha.github.io/Tai-Rocha_CV.github.io/



EDUCATION

- | | | |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 2017

2013 | <ul style="list-style-type: none">● PhD in Zoology
Emílio Goeldi Museum
• DISSERTATION: Phylogeographic of disjunct bird between Amazon and Atlantic Forest | 📍 MPEG, Brazil |
| 2012

2010 | <ul style="list-style-type: none">● MSc in Environmental biology
Federal University of Pará
• THESIS: Phylogeographic analysis of <i>Xiphorhynchus guttatus</i> from Amazon and Atlantic Forest | 📍 IECOS, Brazil |
| 2010

2006 | <ul style="list-style-type: none">● Degree in biological science
Federal University of Pará | 📍 UFPA, Brazil |



COMPLEMENTARY TRAINING COURSES

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|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 2021 | <ul style="list-style-type: none">● Flexdashboard: Interactive panels using R
🔗 Analyze. Share. Reproduce. Your data tells a story. Use rmarkdown and Flexdashboard and transform your analysis into high-quality documents, reports, presentations and dashboards. | 📍 Online |
| 2021 | <ul style="list-style-type: none">● Managing tables with dplyr R package
🔗 The main functions of dplyr for handling tables. | 📍 Online |
| 2021 | <ul style="list-style-type: none">● Regular expressions (regex) for data cleaning
🔗 Regex as part of the data cleaning and transformation process using Tidyverse R packages. | 📍 Online |

CONTACT

✉ taina013@gmail.com

🐙 [Github](#)

🆔 [ORCID](#)

👁 [Lattes](#)

📄 [Researchgate](#)

🌐 [Linkedin](#)

🌐 [Website](#)

🐦 [Twitter](#)

2020 ● **Open Life Science program**
 OLS-2. Training for early stage researchers and young leaders interested in furthering their Open Science skills.

📍 Online

2020 ● **Writing academic manuscripts using rmarkdown**
 This training provided the different steps and tools for writing academic manuscripts or technical reports in an automated and reproducible way using R and rmarkdown.

📍 Online



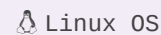
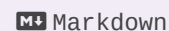
RESEARCH EXPERIENCE

2021
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2021 ● **Independent research**
 Home Office 📍 Home Office
 • Forest under different scenarios of climate change
 🔗 https://github.com/Tai-Rocha/Forest_Scenarios.github.io

2021
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2019 ● **Postdoctoral Researcher**
 Terrestrial Ecosystem Modeling 📍 JBRJ, Brazil
 Supervisor: **Marinez F Siqueira**
 • Beta diversity in Caatinga dry tropical forest
 🔗 https://github.com/Tai-Rocha/Caatinga_Dry_Forest.github.io
 • Climatic niche analysis of *Syzygiella rubricaulis* (Bryophytes)
 🔗 https://github.com/Tai-Rocha/S_rubricaulis_bryophytes
 • The first botanical explorations of bryophyte diversity in the Brazilian Amazon mountains: high species diversity, low endemism, and low similarity
 🔗 <https://github.com/Tai-Rocha/Bryophyte-Amazon-mountains>
 • Ecological niche models with future projections of *Dimorphandra wilsonii* Rizzini (Fabaceae) presented to Green List in the three-year activity plan of the Brazilian Plant Red List Authority member of the Plant Conservation Committee between 2017-2020 and the Species Survival Commission of the International Union for Conservation of Nature (IUCN)
 🔗 <https://github.com/Tai-Rocha/faveiro>
 • Ferns and lycophytes diversity of Tijuca forest.
 🔗 <https://github.com/Tai-Rocha/Ferns-and-lycophytes>

2019
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2017 ● **Researcher of Technological Development and Innovation**
 INCT Ecology, Evolution and Biodiversity Conservation 📍 UFRJ, Brazil
 Supervisor: **Mariana M Vale**
 • Global land-use and land-cover (LULC) data under historical, current, and future climatic conditions
 🔗 https://github.com/Tai-Rocha/LUH2_Data
 • Ecological niche models (ENMs) for *Carpornis melanocephala* (Passeriformes: Cotingidae) in Rio de Janeiro State, Brazil
 🔗 https://github.com/Tai-Rocha/Carpornis_melanocephala
 • Ecological niche models and niche similarity test to compares two divergent lineages of *Microtus californicus* (Rodentia, Cricetidae)
 🔗 <https://github.com/Tai-Rocha/Vole>

SKILLS





TEACHING EXPERIENCE

2020
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2019



Instructor

Biology department

📍 PUC-Rio, Brazil

- Ecological Niche Models and Species Distribution Models, theory and practice (40 h)
- Public tools for spatial analysis of biodiversity (40 h)

2020
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2020



Instructor

ENBT Postgraduate

📍 ENBT

- Ecological niche modeling: theory and practice. Modeling potential species distribution. Niche concept and its application. Algorithms modeling. Source of biotic and abiotic data. Maps and spatial analysis using GIS. Tools for processing and preparing biotic and abiotic data. R programming to modeling. Applications. Model testing and validation (40 h) | [G https://classroom.google.com/u/0/r/MTI2NTU0NzQ0Nzcxw/sort-last-name](https://classroom.google.com/u/0/r/MTI2NTU0NzQ0Nzcxw/sort-last-name)

2020
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2020



Guest Lecture

II National Meeting on Biological Collections and their Interfaces

📍 IVB, Brazil

- Ecological niche models and biological conservation in future scenarios of global changes (5 h)

2019
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2018



Guest lecture.

Biological Sciences- Bachelor's Degree

📍 UVA, Brazil

- Ecological niche models under a biogeography perspective (3 h)
- Ecological Niche Models and Species Distribution Models (3 h)

2018
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2017



Guest lecture

Biological Sciences- Bachelor's Degree

📍 UFRA, Brazil

- Introduction to Geographic Information System (GIS) (12 h)
- Data for ecological niche models (12 h)

2017
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2017



Guest lecture

Biological Sciences Undergraduate

📍 UNESA, Brazil

- Introduction to databases which provide input to perform ecological niche models (3 h)

2017
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2015



High school teacher

Dinâmica Natural

📍 Rio de Janeiro, Brazil

- Science classes



MENTORING EXPERIENCE

2018
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Present

● Co-advisor undergraduate

Beta diversity of mountains altitudinal gradient in the State of Rio de Janeiro. Student: Felipe Meira. Advisor: Marinez Ferreira de Siqueira. Institution: Pontifical Catholic University of Rio de Janeiro | 2020 - present

Influence of the collection effort on the quantification of the terrestrial vertebrate richness in the Atlantic Forest. Student: Caroline Vital da Solidade. Advisor: Mariana Moncassim Vale. Institution: Federal University of Rio de Janeiro | 2018- 2019

📍 RJ, Brazil

2019

● Technical Advisor

Geographic Information System (GIS). Student: Tainá Cunha Udine Bernardino. Institution: Federal University of Rio de Janeiro, Brazil.

Geographic Information System (GIS). Student: João Pedro Sousa Cerqueira Cruz. Institution: Federal University of Rio de Janeiro

📍 RJ, Brazil



SELECTED PUBLICATIONS

2021
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2021

● Global land-use and land-cover data: historical, current and future scenarios

Accepted for publication in Biodiversity Informatics Journal , available in [bioRxiv](#)

• Authored by Vale MM, Lima-Ribeiro MS and Rocha TC.

2020
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2020

● The first botanical explorations of bryophyte diversity in the Brazilian Amazon mountains: high species diversity, low endemism, and low similarity

[Biodiversity and conservation](#)

• Authored by Costa D, Nada F. and Rocha TC.

2019
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2019

● A dynamic continental moisture gradient drove Amazonian bird diversification


[Science Advances](#)

• Authored by Silva SM , Townsend P, Carneiro L, Burlamaqui TCT, Ribas CC, Sousa-Neves T, Miranda LS, Fernandes AM, d'Horta FM, Araújo-Silva LC, Batista R, Bandeira CHMM, Dantas SM, Ferreira M, Martins DM, Oliveira J, Rocha TC, Sardelli CH, Gregory T, Rêgo PS, Santos MP, Sequeira F, Vallinoto M and Aleixo A.

- 2019
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2019
- **A macroecological approach to evolutionary rescue and adaptation to climate change**
Ecography
• Authored by Diniz-Filho JAF, Souza KS, Bini LM, Loyola R, Dobrovolski R, Rodrigues JFM, Lima-Ribeiro Matheus MS, Terribile CL, RangelTF, Bione I, Freitas R, Machado IF, Rocha TC, Lorini ML, ValeMM, Navas CA, Maciel NM, Villalobos F, Olalla-Tarraga MA, Gouveia S.
- 2015
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2015
- **Molecular phylogeny and diversification of a widespread Neotropical rainforest bird group: The Buff-throated Woodcreeper complex, *Xiphorhynchus guttatus/susurrans* (Aves: Dendrocolaptidae)**
Molecular Phylogenetics and Evolution
• Authored by Rocha TC, Sequeira F, Aleixo A, Rego PS, Sampaio I, Schneider H, Vallinoto M.
- 2014
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2014
- **Instabilidade Climática e diversidade de espécies na Amazônia**
In book: Cenários para Amazônia: clima, biodiversidade e uso da terra
• Authored by Aleixo A, Townsend P, Araújo-Silva LC, Miléo CHM, Batista R, Burlamaqui TCT, Danta SM, Fernandes AM, Ferreira M, Martins DM, Rêgo PS, Ribas CC, Rocha TC, Santos MP, Sardelli CH, Sequeira F, Soares LMS, de Sousa BRS, Sousa SA, Sousa-Neves T, Gregory T, Vallinoto M.
- 2009
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2009
- **Identification and phylogenetic inferences on stocks of sharks affected by the fishing industry off the Northern coast of Brazil**
Genetics and Molecular Biology
• Authored by Rodrigues-Filho LF, Rocha TC, Rego PS, Schneider H, Sampaio I, Vallinoto M.



PERIODICAL REVIEWER

- 2021
- **Frontiers in Ecology and Evolution**
One review  Online
- 2020
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2021
- **Perspectives in Ecology and Conservation**
Two reviews  Online
- 2019
|
2020
- **Oecologia Australis.**
Three reviews  Online



COMMITTEE MEMBER

- 2021

 - Leave out or put in - selecting input data to improve ecological niche models applied to conservation and climate change analysis: an approach using the Atlantic Goliath Grouper, *Epinephelus itajara* (Perciformes)

Final Master committee. Student: Eduardo Motta Carelli Minsky. Advisor: Maria Lucia Lorini. Institution: UNIRIO

📍 UNIRIO, Brazil
- 2021

 - Wallacean knowledge shortfall of mammals in the Central Corridor of the Atlantic Forest

Final undergraduate committee. Student: Inês Motta Comarella. Advisor: Francisco Candido Cardoso Barreto. Institution: UFES

📍 UFES, Brazil
- 2021

 - Impacts on the food behavior of birds in the urban, semi-urban and rural environment in the municipal of Capanema, Pará

Final undergraduate committee. Student: Luana Gabriela Costa Bezerra. Advisor: Breno Barros. Institution: UFRA

📍 UFRA, Brazil
- 2021

 - Modeling species distribution of plant species as tool for assessing the impacts of climate changes and progress of Sustainable Development Goals (SDGs) 13 and 15 in Caatinga biome

Master's qualifying examination. Student: Lucas Peixoto Teixeira. Advisor: Marcelo Freire Moro. Institution: UFC

📍 UFC, Brazil
- 2020

 - Strategies for conservation of endemic and threatened species: *Hindsia glabra* K. Schum & *Aosa uleana* (Urb. Gilg) Weigend

Master's project monitoring committee. Student: Bárbara Piovani Luz Aieta Afonso. Supervisor: Marinez Ferreira de Siqueira. Institution: ENBT/JBRJ

📍 ENBT, Brazil
- 2018

 - Seabird habitat use and its association with foraging with Guiana dolphin (*Sotalia guianensis*) in Sepetiba Bay (2018).

Undergraduate monitoring committee. Student: Leonardo Gomes Pacheco de Sá. Advisor: Maria Alice dos Santos Alves. Co-advisor: Rodrigo Hipolito Tardin Oliveira. Institution: UFRJ

📍 UFRJ, Brazil



SELECTED TALKS & SCIENTIFIC COMMUNICATION

- 2020

 - Open tools and databases to analyze biodiversity in space and time

Week curator at [Biodiversity in Focus](#) | [Webpage](#) for the content shared




📍 Online

I recently created a website⁷ where I will talk about science communication, provide tutorials of different tools and diverse content about science.

- 2020 ● Global land-use and land-cover data: historical, current and future scenarios
Final presentation in [OLS-2|Slides](#)  Online
- 2019 ● Connecting data and experiences: Biodiversity, Information and Communication Technologies in Brazil
[RNP 2019 | Slides](#)  Brasília, Brazil





SELECTED EVENTS

- 2021 ● V International Seminar on Statistics with R
[V SER](#) event was recognized by the R Foundation (2018) for its pioneering in Latin America in bringing together an expressive number of R users| Participation as a listener.
 Online
- 2019 ● Forum of Rede Nacional de Ensino e Pesquisa
[RNP 2019](#). Challenges of digital transformation in teaching and research will lead debates at 2019 RNP Forum| Participation as Guest speaker.
 Brasília, Brazil
- 2018 ● Workshop Evolutionary Rescue
The [workshop](#) was organized by [José Alexandre Diniz-Filho](#) professor. The general concept of “evolutionary rescue” refers to the possibility of rapid Darwinian adaptation of populations under a strong effect of environmental stress. Specifically, in this workshop we discussed: 1) the concept of evolutionary rescue and the theoretical models in evolutionary genetics that have been used to study this process, and; 2) the integration of these theoretical models with ecological niche modelling techniques, in a context of climate change and anthropogenic changes in the landscape, 3) their implications for the conservation of diversity in the face of these changes, at different spatial scales. Analyses were implemented for some species of amphibians, such as model organisms, and the possibilities of expanding these analyses to a global scale were discussed, and several sub-projects to be carried out in the coming years on this topic were defined. 20h
 Goiânia, Brazil



LIST OF ABBREVIATIONS

- ENBT
[Escola Nacional de Botânica Tropical](#)  Rio de Janeiro, Brazil
- IECOS
[Instituto de Estudos Costeiros](#)  Bragança-Pará, Brazil

●	IVB	Instituto Vital Brazil	📍 Niterói-Rio de Janeiro, Brazil
●	JBRJ	Instituto de Pesquisas Jardim Botânico do Rio de Janeiro	📍 Rio de Janeiro, Brazil
●	MPEG	Museu Paraense Emílio Goeldi	📍 Belém-Pará, Brazil
●	OLS	Open Life Science	📍 Global
●	PUC-Rio	Pontifícia Universidade Católica do Rio de Janeiro	📍 Rio de Janeiro, Brazil
●	RNP	Rede Nacional de Ensino e Pesquisa	📍 Brazil
●	UFC	Universidade Federal do Ceará	📍 Ceará, Brazil
●	UFES	Universidade Federal do Espírito Santo	📍 Espírito Santo, Brazil
●	UFPA	Universidade Federal do Pará	📍 Pará, Brazil
●	UFRA	Universidade Federal Rural da Amazônia	📍 Pará, Brazil
●	UFRJ	Universidade Federal do Rio de Janeiro	📍 Rio de Janeiro, Brazil
●	UNESA	Universidade Estácio de Sá	📍 Rio de Janeiro, Brazil
●	UNIRIO	Universidade Federal do Estado do Rio de Janeiro	📍 Rio de Janeiro, Brazil
●	UVA	Universidade Veiga de Almeida	📍 Rio de Janeiro, Brazil

This resume was made with the R packages [pagedown](#) and [datadrivency](#).

Code available on [GitHub](#).

Last updated on 2021-07-29. The most recent version of this resume is [available here](#).