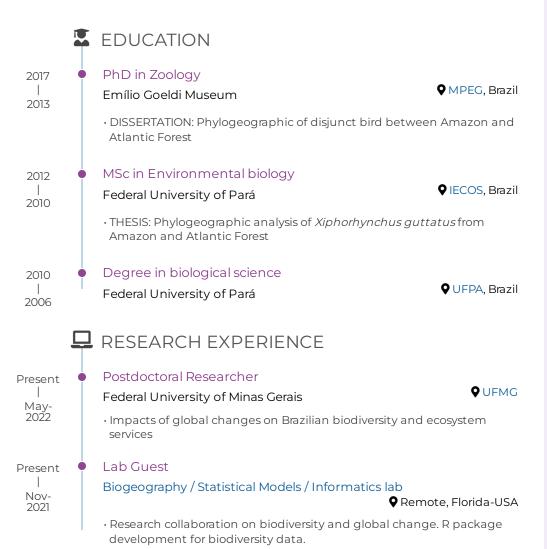
# TAINÁ ROCHA

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. Biodiversity, 3. Predictive models of species niche and potential distribution, 4. Spatial analysis (GIS), 5. Bioinformatics, R programming language, Google Earth Engine etc.

**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





Online version available here

#### CONTACT

- **♣** Linktree
- **G** Github
- Lattes
- in Linkedin
- (D) ORCID
- Researchgate
- ☑ taina013@gmail.com
- **Y** Twitter
- ₩ Website

Mar-2022 | Aug-2021

#### Biodiversity Researcher and Consultant

#### Brazilian National Centre for Flora Conservation

**♥**JBRJ, Brazil

• **G** https://www.iucn.org/commissions/species-survival-commission/resources/iucn-green-status-species

Green Status of threatened species of the Brazilian Cerrado. The IUCN Green Status classifies species into nine Species Recovery Categories, indicating the extent to which species are depleted or recovered compared to their historical population levels. Each Green Status assessment measures the impact of past conservation on a species, a species' dependence on continuing support, how much a species stands to gain from conservation action within the next ten years, and the potential for it to recover over the next century. Here we used predictive models of species niche and potential distribution in scenarios of climate change and land use data of Mapbiomas (https://mapbiomas.org/en) to infer Species Recovery metrics.

Sep-2021 | Jun-

2021

Volunteer Researcher at United Nations Volunteers

#### **UN Online Volunteers**

United Nations

· Research Support for an Automated Analysis of Sustainable Development Goals

**G** https://www.osdg.ai/

2021

Postdoctoral Researcher at Botanical Garden of Rio de Janeiro

#### Terrestrial Ecosystem Modeling Supervisor: Marinez F Siqueira

**♥**JBRJ, Brazil

 Beta diversity (variation in species composition among locations) in Caatinga dry tropical forest using predictions of Generalized dissimilarity Models (GDM) and Baselga Metrics

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
- This://github.com/Tai-Rocha/Bryophyte-Amazon-mountains
- Predictive models of species niche and potential distribution 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 Commitee between 2017-2020 and the Species Survival Commission of the International Union for Conservation of Nature (IUCN)
- nttps://github.com/Tai-Rocha/faveiro
- · Ferns and lycophytes diversity of Tijuca forest.
- https://github.com/Tai-Rocha/Ferns-and-lycophytes

2019 2017

Researcher of Technological Development and Innovation

Supervisor: Mariana M Vale

- · Global land-use and land-cover (LULC) data under historical, current, and also future climatic conditions (different scenarios- SSP and RCPs) https://github.com/Tai-Rocha/LUH2\_Data
- · Predictive models of species niche and potential distribution for Carpornis melanocephala (Passeriformes: Cotingidae) in Rio de Janeiro
- https://github.com/Tai-Rocha/Carpornis\_melanocephala
- · Predictive models of species niche, potential distribution and niche similarity test to compares two divergent lineages of *Microtus* californicus (Rodentia, Cricetidae)
- https://github.com/Tai-Rocha/Vole



#### **SELECTED PUBLICATIONS**

2022 2022 GridDER: Grid Detection and Evaluation in R

Preprint at EcoEvoRxiv DOI 10.32942/osf.io/6qy5u Submitted to Global Ecology and Biogeography

· Authored by Feng X, Rocha TC, Thammavong HT, Tulaiha R, Chen X,Xie Y. Park D

2022 2022 Climatic conditions may structure the distribution of Syzygiella rubricaulis (Nees) Steph., a disjunct and high elevation species

Under review at Phytotaxa

· Authored by Costa D, Rocha TC. and Siqueira MF

2021 2021 Global land-use and land-cover data: historical, current and future scenarios

Biodiversity Informatics Journal

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

2020 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.

#### SKILLS







M↓ Markdown







aws 🔼 Cloud Services





2019 2019 A dynamic continental moisture gradient drove Amazonian bird diversification

#### Science Advances

· Authored by Silva SM, Townsend P, Carneiro L, Burlamagui 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 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 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 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,

Burlamagui 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 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.



#### OTHER PUBLICATION TYPES

Apr 2022

Forest land under different scenarios of future global change

Global Dataset

Online

Dec 2021

Third Report- GREEN STATUS

GREEN STATUS Activity Progress Report for 10 Cactaceae species

**Q** Online

Second Report- GREEN STATUS Oct 2021 GREEN STATUS Activity Progress Report for 10 Cactaceae species **O**online First Report- GREEN STATUS Sep 2021 GREEN STATUS Activity Progress Report for 10 Cactaceae species **Q** Online JOURNAL REVIEWER Acta Botanica Brasilica Mar 2022 Online One review Conservation Science and Practice Oct 2021 Online One review Frontiers in Ecology and Evolution

2021 2019 Oecologia Australis. Three reviews

Perspectives in Ecology and Conservation

### Online

Online

Online

### COMMITTEE MEMBER

Three review

Two reviews

Apr 2022

2021

2020

2020

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 Brazilian semi-arid biome

**Q** UFC, Brazil Final Master committee. Student: Lucas Peixoto Teixeira Advisor: Marcelo FreireMoro

Jun 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

**Q** UNIRIO, Brazil

Jul 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

**Q** UFES. Brazil

Mar 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

**Q** UFRA, Brazil

Feb 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

**Q** UFC, Brazil

Aug 2020

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

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

**♥** ENBT-JBRJ, Brazil

Jul 2018

Seabird habitat use and its association offoraging 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

**Q** UFRJ. Brazil

### \*\* TEACHING EXPERIENCE

Sep-2021

Guest lecture.

Plant Biology Postgraduate

**Q** UFPE. Brazil

Sep-2021

· Ecological Niche Models: Introduction to Theory and Practice (60 h) | G https://classroom.google.com/u/0/r/Mzg4ODE4NDg1NDQx/sort-first -name

Instructor 2020 **PUC-Rio**, Brazil Biology department 2019 · Ecological Niche Models and Species Distribution Models, theory and practice (40 h) · Public tools for spatial analysis of biodiversity (40 h) Instructor 2020 **♥** ENBT-JBRJ. Brazil **ENBT** Postgraduate 2020 • 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/MTI2NTU0NzQ0Nzcw/sort -last-name **Guest Lecture** 2020 II National Meeting on Biological Collections and their Interfaces 2020 **♀** IVB. Brazil · Ecological niche models and biological conservation in future scenarios of global changes (5 h) Guest lecture. 2019 **Q** UVA, Brazil Biological Sciences- Bachelor's Degree 2018 • Ecological niche models under a biogeography perspective (3 h) • Ecological Niche Models and Species Distribution Models (3 h) Guest lecture 2018 **Q** UFRA, Brazil Biological Sciences-Bachelor's Degree 2017 · Introduction to Geographic Information System (GIS) (12 h) · Data for ecological niche models (12 h) Guest lecture 2017 **Q** UNESA. Brazil Biological Sciences Undergraduate 2017 · Introduction to databases which provide input to perform ecological niche models (3 h) High school teacher 2017 • Rio de Janeiro, Brazil Dinâmica Natural 2015 · Science classes

### MENTORING EXPERIENCE

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 TALKS & SCIENTIFIC COMMUNICATION

May 2022

VI International Seminar on Statistics with R

VI SER rgee: an R package to use Google Earth Engine| Participation as a Speaker.

online

2020

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

Final presentation in OLS-2|Slides

**Q** Online

2020

Open tools and databases to analyze biodiversity in space and

Week curator at Biodiversity in Focus | Webpage for the content shared

**Q** Online

2019

Connecting data and experiences: Biodiversity, Information and Communication Technologies in Brazil

RNP 2019 | Slides

Pasília, 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

I have a website to talk about science communication, provide tutorials and diverse content.

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.

Pasília, 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



#### COMPLEMENTARY TRAINING COURSES

Nov 2021-Jan 2022 R for Data Science II

This course aims to deepen the essential concepts of programming in R for Data Science. Advanced data manipulation techniques from real data analysis problems, including texts and dates, and functional programming concepts. 18 h

Online

Mar 2021

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. 4 h

**O**nline

Feb 2021

Managing tables with dplyr R package

The main functions of dplyr for handling tables. 4 h

Online

Feb 2021

Regular expressions (regex) for data cleaning

Regex as part of the data cleaning and transformation process using Tidyverse R packages. 4 h

Online

Aug 2020 | Dec 2020 Open Life Science program

OLS-2. Training for early stage researchers and young leaders interested in furthering their Open Science skills.

**Q** Online

Sep 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. 4 h

**O**nline

This CV was made with R packages: **pagedown** e **datadrivency**.

Code available at **Q** GitHub.

Last updated in 2022-06-15 and available here.