

MAURÍCIO VANCINE

Doctoral Student in Ecology, Evolution and Biodiversity

I am a Spatial Ecologist and PhD student at Unesp Rio Claro, Brazil. I have experience in landscape ecology, habitat loss and fragmentation, amphibian ecology, species distribution modeling, and analysis of ecological and spatial data.

EDUCATION

- 2020
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Present
- **São Paulo State University (UNESP)**
Doctoral Student in Ecology, Evolution and Biodiversity 📍 Rio Claro, SP, Brazil
Thesis: Landscape structure as a predictor of taxonomic and functional diversity of amphibians in the Atlantic Forest **Advisor:** Prof. Milton Cezar Ribeiro
- 2016
|
2018
- **São Paulo State University (UNESP)**
Master in Zoology 📍 Rio Claro, SP, Brazil
Thesis: Diversity, distribution and effect of climate change on Atlantic Forest amphibian communities ([UNESP Libraries](#))
Advisor: Prof. Célio Fernando Baptista Haddad
- 2011
|
2014
- **São Paulo State University (UNESP)**
Bachelor in Ecology 📍 Rio Claro, SP, Brazil
Thesis: Effect of fragmentation on the persistence of anuran amphibians (Amphibia: Anura) within the Atlantic Forest ([UNESP Libraries](#))
Advisor: Prof. Milton Cezar Ribeiro

COMPLEMENTARY EDUCATION

- 2022
- **Data Science Journey**
Ômega Data Science (Online)
• 330 h • [course](#) 📍 Curitiba, Paraná
- 2020
- **Hierarchical Modelling of Species Communities with the R-package Hmsc**
University of Helsinki (Online)
• 25 h • [course](#) 📍 Helsinki, Finland
- 2020
- **School on Community Ecology: from patterns to principles**
São Paulo State University (UNESP)
• 60 h • [course](#) 📍 São Paulo, SP, Brazil
- 2019
- **Introduction to Hierarchical Modeling**
Federal University of Rio Grande do Sul (UFRGS)
• 45 h • [course](#) 📍 Porto Alegre, RS, Brazil
- 2016
- **Geoprocessing with GRASS GIS**
São Paulo State University (UNESP)
• 24 h 📍 Rio Claro, SP, Brazil
- 2016
- **V Southern-Summer School on Mathematical Biology**
São Paulo State University (UNESP)
• 53 h • [course](#) 📍 São Paulo, SP, Brazil

CONTACT

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🔗 [github/mauriciovancine](https://github.com/mauriciovancine)
🆔 0000-0001-9650-7575
📞 9761288418931193

THEMES

- 🌐 Spatial Ecology
🌍 Landscape Ecology
📊 Ecological Modeling
📦 Geoprocessing
🐸 Amphibian Ecology

SKILLS

- 📊 R
📦 tidyverse
📄 markdown
🔗 git (básico).
🐍 python (básico).
> _ bash (básico).
📊 QGIS
🌿 GRASS GIS
🐧 GNU/Linux

LANGUAGES

- Portuguese (Native speaker)
English (Intermediate)
Spanish (Basic)

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CV by [pagedown](#) R package.
Code available on [GitHub](#).
Last updated on 2022-06-18.

- 2015 ● **Biology and conservation of amphibians and reptiles**
Instituto Boitatá, IBEC • 44 h Alfenas, MG, Brazil
- 2011 ● **Ecological data analysis with R**
São Paulo State University (UNESP) • 40 h Rio Claro, SP, Brazil

SCHOLARSHIP & AWARDS

- 2020 | 2024 ● **Doctoral Graduate Scholarship**
Coordination of Superior Level Staff Improvement (Capes) (BRL 118,680.00)
São Paulo State University (UNESP)
Grant [88887.513979/2020-00](#)
Rio Claro, SP, Brazil
Title: Landscape structure as a predictor of taxonomic and functional diversity, vocalization patterns and chytridiomycosis in amphibians in the Atlantic Forest **Aim:** Answer how the structure of the Atlantic Forest Biome landscapes affect: 1) the taxonomic and functional diversity of species; (2) vocalization patterns; and (3) the infection of *Batrachochytrium dendrobatidis* (Bd) at different spatial scales
- 2017 | 2018 ● **Master Graduate Scholarship**
São Paulo Research Foundation (FAPESP) (BRL 16,248.54)
São Paulo State University (UNESP)
Grant [#2017/09676-8](#)
Rio Claro, SP, Brazil
Title: Effect of Landscape Modifications and Climate Changes on the Persistence of Amphibians in the Atlantic Forest
Aim: (1) to present an assessment of the surveys of the amphibian communities for the Atlantic Forest, their composition and distribution; (2) to investigate how habitat loss and fragmentation on the regional scale can affect the current persistence of amphibians from different reproductive guilds; and (3) to investigate how climate change may affect the future persistence of amphibians of the genus *Brachycephalus*, considered highly sensitive to these climatic changes
- 2013 | 2015 ● **Scientific Initiation Scholarship**
São Paulo Research Foundation (FAPESP) (BRL 10,539.87)
São Paulo State University (UNESP)
Grant [#2013/02883-7](#)
Rio Claro, SP, Brazil
Title: Effect of Fragmentation on the persistence of anuran amphibians (Amphibia: Anura) within the Atlantic Forest
Aim: (1) model the potential distribution based on the environmental suitability of the species of interest; (2) identify landscapes with high environmental suitability and surveys with high sampling effort in order to characterize the regional anurofauna; and (3) evaluate the relative contribution of landscape indices (percentage of forest cover, connectivity, relief and urban proximity) to the persistence of species using model selection for multiple competing hypotheses based on Akaike information theory

RESEARCH EXPERIENCE

- 2015 | 2016 ● **Research Assistant**
São Paulo State University (UNESP) • 2000 h Rio Claro, SP, Brazil
[Spatial Ecology and Conservation Lab \(LEEC\)](#)
Statistical and spatial analyzes of mammal and ants biodiversity in the Atlantic Forest Biome

From 2015 to 2016, I was a Research Assistant of Prof. Milton Cezar Ribeiro where I developed statistical and spatial analysis of mammal and ants biodiversity in the Atlantic Forest Biome



PROFESSIONAL EXPERIENCE

2021 2022	Environmental consultant <u>Seleção Natural</u> • Ecological Modeling	 Piracicaba, SP, Brazil
2020 2021	Environmental consultant <u>Seleção Natural</u> • Ecological corridors • Landscape metrics	 Piracicaba, SP, Brazil
2019 2021	Environmental consultant <u>PROECO Ambiental</u> • Species distribution modeling	 Poços de Caldas, MG, Brazil
2018 2019	Environmental consultant <u>Seleção Natural</u> • Ecological data analyst	 Piracicaba, SP, Brazil
2018 2019	Environmental consultant <u>Aquaflora</u> • Species distribution modeling	 Curitiba, PR, Brazil
2018 2019	Environmental consultant Associação de Levantamento Florestal do Amazonas • Shiny App	 Manaus, AM, Brazil
2018 2019	Environmental consultant ECONecta • SIG specialist	 Rio Claro, SP, Brazil
2015 2016	Environmental consultant <u>Geoinform</u> • Herpetology field assistant	 Rio Claro, SP, Brazil

Since 2016, I have worked as an autonomous environmental consultant in the field of geoprocessing, analysis of ecological data, landscape ecology and species distribution modeling

Between 2018 and 2019, I composed a group of analysts to assess the impact of the Fundão dam rupture in Marina/MG (Brazil) on the Rio Doce Basin, where I compiled land cover information and built models for the distribution of terrestrial and aquatic species to several scenarios

TEACHING EXPERIENCE

	Courses Total hours: Graduate: 300 h Undergraduate: 102 h	
2021	9. Introduction to the use of geospatial data in R Invited teacher Ecology, Biodiversity and Evolution Graduate Program São Paulo State University (UNESP) • 60 h	 Rio Claro, SP, Brazil
2020	8. Introduction to geospatial analysis with R Invited teacher Ecology, Biodiversity and Evolution Graduate Program São Paulo State University (UNESP) • 60 h	 Rio Claro, SP, Brazil

Since my formation I develop teaching activities, initially as a monitor. From the master's degree, I help and minister undergraduate and graduate courses, especially those related to Space Ecology, Species Distribution Models, Statistical Models in Ecology and Geoprocessing.

2020	<ul style="list-style-type: none"> ● 7. Statistical Models in Ecology Teacher Ecology Undergraduate São Paulo State University (UNESP) • 30 h 	<ul style="list-style-type: none"> 📍 Rio Claro, SP, Brazil
2019	<ul style="list-style-type: none"> ● 6. Introduction to Geoprocessing for Ethnobiology and Biodiversity Conservation Invited external teacher Ethnobiology and Nature Conservation Graduate Program Rural Federal University of Pernambuco (UFRPE) • 45 h • material 	<ul style="list-style-type: none"> 📍 Recife, PE, Brazil
2018	<ul style="list-style-type: none"> ● 5. Statistical Models in Ecology Teaching assistant Ecology Undergraduate São Paulo State University (UNESP) • 12 h 	<ul style="list-style-type: none"> 📍 Rio Claro, SP, Brazil
2017	<ul style="list-style-type: none"> ● 4. Ecological Niche Modeling: theory and practice Teaching assistant Ecology and Biodiversity Graduate Program São Paulo State University (UNESP) • 60 h 	<ul style="list-style-type: none"> 📍 Rio Claro, SP, Brazil
2016	<ul style="list-style-type: none"> ● 3. Ecological Niche Modeling: theory and practice Teaching assistant Ecology Graduate Program The University of Campinas (UNICAMP) • 45 h 	<ul style="list-style-type: none"> 📍 Campinas, SP, Brazil
2016	<ul style="list-style-type: none"> ● 2. Ecological Niche Modeling in R Teaching assistant Ecology and Biodiversity Graduate Program São Paulo State University (UNESP) • 30 h 	<ul style="list-style-type: none"> 📍 Rio Claro, SP, Brazil
2015	<ul style="list-style-type: none"> ● 1. Quantitative Ecology Teaching assistant Ecology Undergraduate São Paulo State University (UNESP) • 60 h 	<ul style="list-style-type: none"> 📍 Rio Claro, SP, Brazil
	<ul style="list-style-type: none"> ● <u>Workshops</u> Total hours: 95 h 	
2021	<ul style="list-style-type: none"> ● 11. Introduction to the R language for data manipulation and visualization Short course instructor XXXI Ecology Studies Week São Paulo State University (UNESP) • 08 h • material 	<ul style="list-style-type: none"> 📍 On-Line

Since 2014, I teach practical training courses, mainly related to the R language and Species Distribution Models

2021	<p>● 10. Geoprocessing with QGIS</p> <p>Short course instructor</p> <p><u>32ª Biology Studies Week</u></p> <p>São Paulo State University (UNESP)</p> <p>• 03 h</p> <p>• <u>material</u></p>	<p>📍 On-Line</p>
2021	<p>● 9. Introduction to species distribution modeling using the R language</p> <p>Workshop instructor</p> <p><u>Mastozólogos Organizados em uma Conferência Online (MOCÓ)</u></p> <p>Sociedade Brasileira de Mastozoologia</p> <p>• 06 h</p> <p>• <u>material</u></p>	<p>📍 On-Line</p>
2019	<p>● 8. Introduction to R Language</p> <p>Short course instructor</p> <p><u>XXX Ecology Studies Week</u></p> <p>São Paulo State University (UNESP)</p> <p>• 08 h</p> <p>• <u>material</u></p>	<p>📍 Rio Claro, SP, Brazil</p>
2019	<p>● 7. Introduction to R Language</p> <p>Short course instructor</p> <p><u>30ª Biology Studies Week</u></p> <p>São Paulo State University (UNESP)</p> <p>• 08 h</p> <p>• <u>material</u></p>	<p>📍 Rio Claro, SP, Brazil</p>
2019	<p>● 6. Introduction to Species Distribution Modeling using R Language: theory and practice</p> <p>Short course instructor</p> <p><u>9º Brazilian Congress of Herpetology</u></p> <p>The University of Campinas (UNICAMP)</p> <p>• 07 h</p> <p>• <u>material</u></p>	<p>📍 Campinas, SP, Brazil</p>
2018	<p>● 5. Field work with amphibians</p> <p>Short course instructor</p> <p><u>29ª Biology Studies Week</u></p> <p>São Paulo State University (UNESP)</p> <p>• 08 h</p>	<p>📍 Rio Claro, SP, Brazil</p>
2016	<p>● 4. Field herpetology</p> <p>Short course instructor</p> <p><u>XXVII Ecology Studies Week</u></p> <p>São Paulo State University (UNESP)</p> <p>• 15 h</p>	<p>📍 Rio Claro, SP, Brazil</p>
2016	<p>● 3. Introduction to software R: data management, graphs and statistical analysis</p> <p>Short course instructor</p> <p><u>XXVII Ecology Studies Week</u></p> <p>São Paulo State University (UNESP)</p> <p>• 16 h</p>	<p>📍 Rio Claro, SP, Brazil</p>
2015	<p>● 2. Introduction to software R</p> <p>Short course instructor</p> <p><u>XXVI Ecology Studies Week</u></p> <p>São Paulo State University (UNESP)</p> <p>• 08 h</p>	<p>📍 Rio Claro, SP, Brazil</p>

- 2014 ● **1. Organization of data in electronic sheets - Calc**
Short course instructor
[XXV Ecology Studies Week](#)
São Paulo State University (UNESP)
• 08 h

📍 Rio Claro, SP, Brazil

BOOKS

- 2022 ● **1. Ecological Analysis in R**
Nupea Recife, PE. 640 p
ISBN: 978-85-7917-564-0
Site: <https://analises-ecologicas.com/>
Da Silva FR, Gonçalves-Souza T, Paterno GB, Provete DB, **Vancine MH**

PUBLICATIONS

- 2022 ● **21. Present and future distribution of bat hosts of sarbecoviruses: implications for conservation and public health**
Proceedings of the Royal Society B 289(1975), 20220397
DOI: [10.1098/rspb.2022.0397](https://doi.org/10.1098/rspb.2022.0397)
Muylaert RL, Kingston T, Luo J, **Vancine MH**, Galli N, Carlson CJ, John RS, Rulli MC, Hayman DT
- 2022 ● **20. Climate change impacts on the *Copernicia alba* and *Copernicia prunifera* (Arecaceae) distribution in South America**
Brazilian Journal of Botany 45, 807–818.
DOI: [10.1007/s40415-022-00801-8](https://doi.org/10.1007/s40415-022-00801-8)
Costa MF, Francisconi AF, **Vancine MH**, Zucchi MI
- 2022 ● **19. Effects of climate change on distribution and areas that protect two neotropical marsupials associated with aquatic environments**
Ecological Informatics 68:101570
DOI: [10.1016/j.ecoinf.2022.101570](https://doi.org/10.1016/j.ecoinf.2022.101570)
Ribeiro-Souza P, Graipel ME, Astúa D, **Vancine MH**, Pires JS
- 2022 ● **18. Forest cover and connectivity have pervasive effects on the maintenance of evolutionary distinct interactions in seed dispersal networks**
Oikos 2022(2):oik.08240
DOI: [10.1111/oik.08240](https://doi.org/10.1111/oik.08240)
Monteiro ECS, Pizo MA, **Vancine MH**, Ribeiro MC
- 2021 ● **17. Invasive wild boar's distribution overlap with threatened native ungulate in Patagonia**
Journal of Mammalogy 102(5):1298-1308
DOI: [10.1093/jmammal/gyab099](https://doi.org/10.1093/jmammal/gyab099)
Bercé W, Bello C, Mendes CP, **Vancine MH**, Galetti M, Ballarú SA

Citations

[Publons](#)

[Scopus](#)

[Google Scholar](#)

- 2021 ● **16. Setting Priority Conservation Management Regions to Reverse Rapid Range Decline of a Key Neotropical Forest Ungulate**
Global Ecology and Conservation 31:e01796
DOI: [10.1016/j.gecco.2021.e01796](https://doi.org/10.1016/j.gecco.2021.e01796)
Oshima JEF, Jorge MLSP, Sobral-Souza T, Börger L, Keuroghlian A, Peres CA, **Vancine MH**, Collen B, Ribeiro MC
- 2021 ● **15. Distribution of macroalgal epiphytes and host species from the Cuban marine shelf inferred from ecological modelling**
Aquatic Botany 172:103395
DOI: [10.1016/j.aquabot.2021.103395](https://doi.org/10.1016/j.aquabot.2021.103395)
Jover A, Cabrera A, Ramos A, **Vancine MH**, Suárez AM, Machell J, Perez-Llórens JL
- 2021 ● **14. Future climate change will impact the size and location of breeding and wintering areas of migratory thrushes in South America**
The Condor: Ornithological Applications 123:1-16
DOI: [10.1093/ornithapp/duab006](https://doi.org/10.1093/ornithapp/duab006)
Da Silveira NS, **Vancine MH**, Jahn AE, Pizo MA, Sobral-Souza T
- 2021 ● **13. Host diversity outperforms climate as a global driver of symbiont diversity in the bird-feather mite system**
Diversity and Distributions 27(3):416-426
DOI: [10.1111/ddi.13201](https://doi.org/10.1111/ddi.13201)
Gusmão RAF, Hernandez FRA, **Vancine MH**, Naka LN, Doña J, Gonçalves-Souza T
- 2021 ● **12. Environmental niche and functional role similarity between invasive and native palms in the Atlantic Forest**
Biological Invasions 21:741-754
DOI: [10.1007/s10530-020-02400-8](https://doi.org/10.1007/s10530-020-02400-8)
Bello C, Cintra ALP, Barreto E, **Vancine MH**, Sobral-Souza T, Graham CH, Galetti M
- 2020 ● **11. Effects of landscape modification on species richness patterns of fruit-feeding butterflies in Brazilian Atlantic Forest**
Diversity and Distributions 26(2):196-208
DOI: [10.1111/ddi.13007](https://doi.org/10.1111/ddi.13007)
Santos JP, Sobral-Souza T, Brown Jr KS, **Vancine MH**, Ribeiro MC, Freitas AVL
- 2020 ● **10. Fragmented tropical forests lose mutualistic plant-animal interactions**
Diversity and Distributions 26(2):154-168
DOI: [10.1111/ddi.13010](https://doi.org/10.1111/ddi.13010)
Marjakangas E, Abrego N, Grøtan V, Lima RAF, Bello C, Bovendorp RS, Culot L, Hasui E, Muylaert RL, Lima F, Niebuhr B, Oliveira AA, Pereira L, Prado I, Stevens RD, **Vancine MH**, Ribeiro MC, Galetti M, Ovaskainen O
- 2019 ● **9. Predicting the potential hybridization zones between native and invasive marmosets within Neotropical biodiversity hotspots**
Global Ecology and Conservation 20:e00706
DOI: [10.1016/j.gecco.2019.e00706](https://doi.org/10.1016/j.gecco.2019.e00706)
Moraes AM, **Vancine MH**, Moraes AM, Cordeiro CLO, Pinto MP, Lima AA, Culot L, Silva TSF, Collevatti RG, Ribeiro MC, Sobral-Souza T

- 2019 ● **8. Land-use changes and the expansion of biofuel crops threaten the giant anteater in southeastern Brazil**
Journal of Mammalogy 100(2):435–444
 DOI: [10.1093/jmammal/gyz042](https://doi.org/10.1093/jmammal/gyz042)
 Bertassoni A, Costa RT, Gouvea JA, Bianchi BC, Ribeiro JW, **Vancine MH**, Ribeiro MC
- 2018 ● **7. Spatial prediction of risk areas for vector transmission of *Trypanosoma cruzi* in the State of Paraná, southern Brazil**
PLOS Neglected Tropical Diseases 12(10):e0006907
 DOI: [10.1371/journal.pntd.0006907](https://doi.org/10.1371/journal.pntd.0006907)
 Ferro e Silva AM, Sobral-Souza T, **Vancine MH**, Muylaert RL, Abreu AP, Pelloso SM, Carvalho MDB, Andrade L, Ribeiro MC, Toledo MJO
- 2018 ● **6. A note on the territorial limits of the Atlantic Forest**
Oecologia Australis 22(3):302–311
 DOI: [10.4257/oeco.2018.2203.09](https://doi.org/10.4257/oeco.2018.2203.09)
 Muylaert RL, **Vancine MH**, Bernardo R, Oshima JEF, Sobral-Souza T, Tonett VR, Niebuhr BBS, Ribeiro MC
- 2018 ● **5. ATLANTIC AMPHIBIANS: a data set of amphibian communities from the Atlantic Forests of South America**
Ecology 99(7):1692–1692
 DOI: [10.1002/ecy.2392](https://doi.org/10.1002/ecy.2392)
Vancine MH, Duarte KS, Souza YS, Giovanelli JGR, Sobrinho PMM, López A, Bovo RP, Maffei F, Lion MB, Ribeiro-Júnior JW, Brassaloti R, Ortiz C, Sawakuchi HO, Forti LR, Cacciali P, Bertoluci J, Haddad CFB, Ribeiro MC
- 2018 ● **4. Efficiency of protected areas in Amazon and Atlantic Forest conservation: A spatio-temporal view**
Acta Oecologica 87:1–7
 DOI: [10.1016/j.actao.2018.01.001](https://doi.org/10.1016/j.actao.2018.01.001)
 Sobral-Souza T, **Vancine MH**, Ribeiro MC, Lima-Ribeiro MS
- 2017 ● **3. Forest cover influences occurrence of mammalian carnivores within Brazilian Atlantic Forest**
Journal of Mammalogy 98:1721–1731
 DOI: [10.1093/jmammal/gyx103](https://doi.org/10.1093/jmammal/gyx103)
 Regolin AL, Cherem JJ, Graipel ME, Bogoni JA, Ribeiro JW, **Vancine MH**, Tortato MA, Oliveira-Santos LG, Fantacini FM, Luiz MR, Castilho PV, Ribeiro MC, Cáceres, NC
- 2017 ● **2. Impacts of mining activities on the potential geographic distribution of eastern Brazil mountaintop endemic species.**
Perspectives in Ecology and Conservation 15(3):172–178
 DOI: [10.1016/j.pecon.2017.07.005](https://doi.org/10.1016/j.pecon.2017.07.005)
 De Castro Pena J, Goulart F, Fernandes GW, Hoffmann D, Leite FSF, Santos NB, Soares-Filho B, Sobral-Souza T, **Vancine MH**, Rodrigues M
- 2017 ● **1. High mammal species turnover in forest patches immersed in biofuel plantations**
Biological Conservation 210:352–359
 DOI: [10.1016/j.biocon.2017.02.033](https://doi.org/10.1016/j.biocon.2017.02.033)
 Beca G, **Vancine MH**, Carvalho CS, Pedrosa F, Alves RSC, Buscariol D, Peres CA, Ribeiro MC, Galetti M