

Raquel C. Pizzardo^(she/her)

Curriculum Vitae (August 2024)

PERSONAL INFORMATION

Nationality Brazilian

Languages Portuguese (native speaker), English (fluent), Spanish (fluent).

Professional address University of Michigan, 1105 North University Ave, Biological Sciences Building, Central Campus. 481091085. Ann Arbor, Michigan, USA

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GitHub <https://github.com/rpizzardo>

Researchgate https://www.researchgate.net/profile/Raquel_Pizzardo

EDUCATION

2022 – present PhD in Ecology and Evolutionary Biology, University of Michigan, USA

2021 – 2023 MSc. in Ecology and Evolutionary Biology, University of Michigan, USA

2017 – 2021 BSc. in Biological Sciences, Universidade de São Paulo, SP, Brazil

RESEARCH INTERESTS

Geographic distribution, evolutionary processes, diversification, and conservation biology. My previous research experience spans biogeography, conservation, diversification, phylogenetics and systematics, using plants as my study systems.

RESEARCH EXPERIENCE AND APPOINTMENTS

July 2021 – present “The role of assembly processes in shaping dominant tree communities in the Amazon rainforest” PI: Christopher Dick; co-PI: Stephen Smith. PhD Dissertation Proposal

I am studying phylogenetic community structure in the Chrysophylloideae subfamily of Sapotaceae to understand local patterns of coevolution and coexistence. I aim to answer the following kinds of questions (1) How did clades of Chrysophylloideae assemble in the Neotropics?; (2) For species in Chrysophylloideae, what is the level of genomic and functional divergence across the Amazon basin?; (3) What is the role of plant-insect interactions in defining biotic niche differences among locally coexisting species? This work will entail phylogenetic and biochemical analyses. My main goal is to explore the drivers of the diversification of a dominant Amazonian tree family considering different assembly processes and their consequences to the current community structure observed.

September 2024 – December 2024 Graduated Student Curatorial Assistant at Museum of Zoology, Division of Insects. University of Michigan, EEB GSCA funding. Supervisor: Taro Eldredge

May 2022 – August 2022 Graduated Student Curatorial Assistant at MICH Herbarium. University of Michigan, EEB GSCA funding. Supervisor: Bradley Ruhfel

I organized specimens collected in the past, did imaging and processed specimens, created new workbench and did workbench data entry, mounted specimens, and update species name on Specify.

October 2018 – January 2021 “The challenge of tracing conservation policies in naturally fragmented habitats: the flora of the Espinhaço Range in a scenario of climate change”. FAPESP (grant number 2018/24601-7), PI: Thais N. C. Vasconcelos. Bursary for undergraduate internship.

I performed species distribution models for twelve different species that differ in their distribution to assess whether the distribution of species endemic of the Espinhaço Range will be affected differently by predicted scenarios of climate change.

November 2019 – December 2020 Brazil Flora Group (*Syzygium* - Myrtaceae) based at the Rio de Janeiro Botanical Garden (collaborator).

I prepared a monograph for the Brazilian Flora 2020.

December 2019 – February 2020 “Combining risk assessment and evolutionary distinctiveness in the conservation of *Chamaecrista* ser. *Coriaceae* (Fabaceae) from the Espinhaço Range”. FAPESP (grant number 2019/18627-6). PI: Thais N. C. Vasconcelos; co-PI: Eimear NicLughadha. Grant for academic visit to the Royal Botanic Gardens Kew.

I performed Evolutionarily Distinct and Globally Endangered (EDGE) and Phylogenetic Diversity methods for the clade of *Chamaecrista* ser. *Coriaceae* to analyze the peculiarities of conservation priorities in a “sky” island system, the mountain chains in *campo rupestre*.

GRANTS AWARDED

2024 “Uncovering cryptic diversity within an ecologically dominant clade of Amazon rainforest trees (Chrysophylloideae: Sapotaceae)” Rackham International Research Award (UMich) **\$4,000**

2024 “Uncovering cryptic diversity within an ecologically dominant clade of Amazon rainforest trees (Chrysophylloideae: Sapotaceae)” Institute of Global Change Biology Graduate Fellowship (UMich) **\$1,000**

2024 “Uncovering cryptic diversity within an ecologically dominant clade of Amazon rainforest trees (Chrysophylloideae: Sapotaceae)” Block grant (EEB - UMich) **\$1,670**

2023 “Uncovering hidden taxonomic diversity within the hyperdominant tree genus *Pouteria* Aubl. (Sapotaceae) in the Amazon rainforest” Block grant (EEB - UMich) **\$1,769**

2023 “Uncovering hidden taxonomic diversity within hyperdominant tree genus *Pouteria* Aubl. (Sapotaceae) in the Amazon rainforest” ASPT Graduate Research Grant: Shirley and Alan Graham Grant **\$1,500**

2023 “Uncovering hidden taxonomic diversity within hyperdominant tree genus *Pouteria* Aubl. (Sapotaceae) in the Amazon rainforest” IAPT Biodiversity Challenge 2022 **\$4,000**

2022 “Uncovering hidden taxonomic diversity within hyperdominant tree genus *Pouteria* Aubl. (Sapotaceae) in the Amazon rainforest” Rackham Graduate Student Research Grant (UMich) **\$1,500**

2022 “Analyzing the species richness of *Pouteria* Aubl. (Sapotaceae): increasing the samples from the Ericales project” Block grant (EEB - UMich) **\$1,662**

PUBLICATIONS

4 Pizzardo RC, NicLughadha E, Rando JG, Forest F, Walker B, Prochazka L, Nogueira A, Vasconcelos TNC (2024). An assessment of methods to combine evolutionary history and conservation: a study case in the Brazilian *campo rupestre*. Applications in Plant Sciences. <https://doi.org/10.1002/aps3.11587>

3 Prochazka L, Alcantara S, Rando JG, Vasconcelos TNC, Pizzardo RC, Nogueira A (2024). Resource Availability and Disturbance Frequency Shape Plant Life Forms in Neotropical Habitats. New Phytologist. <https://doi.org/10.1111/nph.19601>

2 BFG – The Brazilian Flora Group, Pizzardo RC, et al. (2021). Flora of Brazil 2020. 1-28pp. Jardim Botânico do Rio de Janeiro, Rio de Janeiro.

1 Pizzardo RC, Vasconcelos TNC, Nogueira A, Prochazka L, Cota MMT, Rando JG (2021). Field Guide: Espinhaço Range and Chapada dos Veadeiros, BRAZIL - *Chamaecrista* ser. *Coriaceae* (Fabaceae) of *campo rupestre*. *Field Museum* (<https://fieldguides.fieldmuseum.org/guides/guide/1336>).

PRESENTATIONS

2024 “Sapotaceae across time and space: a taxonomic and historical biogeographic perspective” (speaker). International Botanical Congress 2024 (Madrid - Spain)

2024 “An assessment of methods to combine evolutionary history and conservation: a case study in the Brazilian *campo rupestre*” (speaker). Botany 2024 (Grand Rapids – MI, USA)

2024 “Sapotaceae across time and space: a taxonomic and historical biogeographic perspective” (speaker). Botany 2024 (Grand Rapids – MI, USA)

2024 “Sapotaceae across time and space: a taxonomic and historical biogeographic perspective” (poster). Latinx Research Week, University of Michigan (Ann Arbor – MI, USA).

2022 “Phylogenetic incongruence in an important tropical tree family, Sapotaceae, based on target sequence captured nuclear and plastome genes” (speaker). Botany 2022 (Anchorage – AK, USA)

2020 & 2021 “Conserving the evolutionary history of rapid and recent radiations: a study case with an endemic clade in the *campo rupestre*” (speaker). 28th USP International Symposium of Undergraduate Research (virtual).

2020 “Conserving the evolutionary history of rapid and recent radiations: a study case with *Chamaecrista* ser. *Coriaceae* (Fabaceae) in the campo rupestre” (video-poster). I Digital Symposium of Systematics and Evolution of Plants (virtual).

2019 “The challenge of tracing conservation policies in naturally fragmented habitats: the flora of the Espinhaço Range in a scenario of climate change” (poster & speaker). 70th Brazilian National Conference of Botany (Maceió – AL, Brazil).

2019 “The challenge of tracing conservation policies in naturally fragmented habitats: the flora of the Espinhaço Range in a scenario of climate change” (poster). 39th Regional Botany Meeting (MG, ES e BA).

FIELD EXPERIENCE

July 2023 Yasuni National Park and Tiputini Biodiversity Station, Ecuador. Field collection of fresh tissue for molecular and metabolomic analyses, and identification of species of Sapotaceae in the Amazon rainforest.

November-December 2020 Serra da Canastra and Espinhaço Range Southern, Minas Gerais, Brazil. 8 days. Field collection and identification of species of Ericales order in Atlantic Forest and *campo rupestre* ecosystem.

September 2019 Espinhaço Range Southern, Minas Gerais, Brazil. 10 days. Field collection and identification of *Chamaecrista* species (Fabaceae) in *campo rupestre* ecosystem.

March 2019 Espinhaço Range Southern, Minas Gerais, Brazil. 5 days. Field collection and identification of flora in *campo rupestre* ecosystem.

January 2019 Chapada Diamantina, Bahia, Brazil. 7 days. Field collection and identification of flora in *campo rupestre* ecosystem.

TEACHING EXPERIENCE

2023 (fall term) Graduate Student Instructor in “Evolution” (University of Michigan, USA). Taught discussion classes and support of students during extra class activities and studies.

2022 (fall term) Graduate Student Instructor in “Introductory Biology Lab” (University of Michigan, USA). Taught lab classes and support of students during extra class activities and studies.

2022 (winter term) Graduate Student Instructor in “Introductory Biology: Ecology and Evolution” (University of Michigan, USA). Taught discussion classes and support of students during extra class activities and studies.

2021 (fall term) Graduate Student Instructor in “Introductory Biology Lab” (University of Michigan, USA). Taught lab classes and support of students during extra class activities and studies.

2019 & 2020 (two semesters) Undergraduate Teach Assistant in “Diversity and Evolution of Photosynthetic Organisms” (Universidade de São Paulo, Brazil). Assisted in the preparation and presentation of practical classes and support of students during extra class activities and studies.

2018 “Genetics” (undergraduate course – Universidade de São Paulo, Brazil). Assisted in the preparation of practical classes with *Drosophila* and support of students during extra class activities and studies.

MENTORING EXPERIENCE

2024 Samantha Molino. EEB Summer Research Internship, University of Michigan. “Exploring the diversity of *Pouteria guianensis* in the Amazon rainforest”

SKILLS

R programming language: competent user, including tools for data analysis and curation, statistical operations, biogeography and species distribution modelling.

QGIS & ArcGIS: competent user to work with maps and geographic information.

IUCN Risk Assessment: assessment of species and contribution to the IUCN Red List, a critical indicator of the health of the world’s biodiversity.

Adobe: competent user in Illustrator and Photoshop.

Molecular lab techniques: DNA extraction, polymerase chain reaction, gel electrophoresis, library preparation.

AWARDS & HONORS

2024 Rackham Conference Travel Award (University of Michigan) **\$1,150**

2022 Rackham Conference Travel Award (University of Michigan) **\$1,150**

2021 Honorable Mention at the 28th USP International Symposium of Undergraduate Research.

2019 Award for best undergraduate project (*Prêmio Verde*) presented at the 70th Brazilian National Congress of Botany by the Brazilian Society of Botany (*Sociedade Botânica do Brasil* SBB).

SERVICE AND OUTREACH

2024 – present Peer reviewer for scientific journals. Total of one review: Botanical Journal of the Linnean Society

2023 – present Thursday seminar committee at Ecology and Evolutionary Biology department, University of Michigan

2022 FERIA de Ciencias. Bringing science for bilingual kids.

2020 “Brazil’s secret gardens”. Publication of a Science Story for the Kew Science website (<https://www.kew.org/read-and-watch/campo-rupestre-brazil-secret-gardens>).

2019 Member of the organization team of “Bioblitz program: Counting Species Through Citizen Science”, organized at the Universidade de São Paulo, Brazil (<https://www.inaturalist.org/projects/university-of-sao-paulo-natural-reserve-bioblitz-ngs-2019>).

2018–2020 Conference organizer, Semana Temática da Biologia (<https://semanatematica.ib.usp.br/>).

ACTIVE SOCIETY MEMBERSHIPS

Sociedade Brasileira de Botânica, SBB

The American Society of Plant Taxonomists, ASPT

American Genetic Association

International Association for Plant Taxonomy, IAPT

Botanical Society of America, BSA

Society of the Study of Evolution, SSE

VOLUNTEER

2021 – present F.E.M.M.E.S. (University of Michigan)