

NICOLÁS CASTILLO RODRÍGUEZ

Department of Biology, University of Kentucky, Lexington, KY

nicolas.castillo@uky.edu | [Google Scholar](#)

RESEARCH INTERESTS

I am an evolutionary biologist interested in assessing the drivers of diversification and the distinct evolutionary processes that led to the extraordinary biodiversity levels found in the American Tropics. My research has integrated phylogenetic comparative methods, molecular systematics, biogeography, and population genetics. I am especially interested in testing macroevolutionary hypotheses under a Bayesian framework. This includes examining how traits influence diversification rates and how ecological interactions, such as character displacement and competitive exclusion, shape trait evolution in recently radiated clades.

EDUCATION

2024 – Expected graduation Spring 2029 Doctor of Philosophy, Ph.D. in Biology

Department of Biology, University of Kentucky, Lexington, KY

Dissertation advisor: Rosana Zenil-Ferguson

2023 Master of Science, M.Sc. in Biology

Departamento de Biología, Universidad Nacional de Colombia, Bogotá, Colombia

Dissertation advisor: Mario Vargas-Ramírez

Title: Preliminary genetic evaluation of *in situ* populations of the Orinoco Crocodile (*Crocodylus intermedius*) in the Colombian Orinoquía

2020 Bachelor of Science, B.Sc. in Biology

Departamento de Biología, Universidad Nacional de Colombia, Bogotá, Colombia

Degree research advisors: Mario Vargas-Ramírez and Ángela Suárez-Mayorga

Title: Evolutionary lineages of *Scinax ruber* (Laurenti, 1768) in the middle and lower Magdalena of Colombia

TEACHING EXPERIENCE

University of Kentucky

2025 Spring BIO 303 Introduction to Evolution: Graduate Teaching Assistant

2024 Fall BIO 155 Biological Research Skills Lab: Graduate Teaching Assistant

University of Kentucky & Universidad Nacional Autónoma de México

2025 January Workshop: Filogenética Bayesiana en RevBayes: Teaching Assistant

Universidad Nacional de Colombia

2020 Fall 2021153: Transgenic crops: Graduate Teaching Assistant

PUBLICATIONS

- **Castillo-Rodríguez, N.**, Saldarriaga-Gómez, A.M., Antelo, R. & Vargas-Ramírez, M. (2024). First genetic evaluation of a *Crocodylus intermedius* wild population: new insights for the recovery of a critically endangered species. *Plos One* 19(10): e0311412. Doi: 10.1371/journal.pone.0311412
- **Castillo-Rodríguez, N.**, Saldarriaga-Gómez, A.M., Antelo, R. & Vargas-Ramírez, M. (2024). Population genetic structure evaluation of *Crocodylus intermedius* (Crocodylia: Crocodylidae) in Colombia: a change of perspective to improve conservation actions. *Biological Journal of the Linnean Society*. Doi: 10.1093/biolinnean/blad174
- **Castillo-Rodríguez, N.** & Méndez-Galeano, M.Á. (2017). *PtychoGLOSSUS bicolor* (Werner's Large-scaled Lizard) Predation. *Herpetological Review* 48 (3): 658-659.

PUBLICATIONS IN PREPARATION

- **Castillo-Rodríguez, N.**, Aguirre-Santoro, J., Jabaily, R., Ortiz, E. M. & Zenil-Ferguson, R. Effects of sympatry on the evolution of *Puya* (Bromeliaceae) on Northern-Andean sky island systems. In preparation for submission to the *Botanical Journal of the Linnean Society*.
- Zenil-Ferguson, R., Petrucci, B., **Castillo Rodríguez, N.**, Brock, S., McCullough, J.M. & Heath, T. A. A Bayesian approach to state-dependent diversification models. In preparation for submission to *Systematic Biology*.
- Arango K., **Castillo-Rodríguez, N.**, Rea, E., Cortelo, L., Lagomarsino, L. & Zenil-Ferguson, R. Effect of joint-traits in the Andean evolution of Campanulaceae. In preparation for submission.
- Suárez-Mayorga, A.M., **Castillo-Rodríguez, N.**, Ernst, R., Fritz, U. & Vargas-Ramírez, M. Cryptic diversity of “*Scinax ruber*” in the Andean South America: using integrative taxonomy to switch from a deep information hole into a biodiversity-based conservation strategy. In preparation for submission to *Plos One*.

PRESENTATIONS

- **Castillo-Rodríguez, N.**, Aguirre-Santoro, J., Jabaily, R., Ortiz, E. M. & Zenil-Ferguson, R. (2025) Effects of sympatry on the evolution of *Puya* (Bromeliaceae) on Northern-Andean sky island systems. *Evolution* 2025.
- Aguirre-Santoro, J., Jabaily, R., & **Castillo-Rodríguez, N.** (2024). Efecto de la simpatría en la evolución de *Puya* (Bromeliaceae) en los páramos del norte de los Andes. XII Congreso Colombiano de Botánica.
- **Castillo-Rodríguez, N.**, Saldarriaga-Gómez, A.M., Antelo, R. & Vargas-Ramírez, M. (2023). Population genetic structure evaluation of *Crocodylus intermedius* in Colombia: a change of perspective to improve conservation actions. XV CIMFAUNA Congreso Internacional de Manejo de Fauna Silvestre de la Amazonía y Latinoamérica.
- **Castillo-Rodríguez, N.**, Saldarriaga-Gómez, A.M., Antelo, R. & Vargas-Ramírez, M. (2023). First genetic evaluation of a *Crocodylus intermedius* wild population: new insights for the recovery of a critically endangered species. XV CIMFAUNA Congreso Internacional de Manejo de Fauna Silvestre de la Amazonía y Latinoamérica.

- **Castillo-Rodríguez, N.**, Suárez-Mayorga, A.M., Gantiva, C.H., Fritz, U. & Vargas-Ramírez, M. (2022). The evolutionary lineages of “*Scinax ruber*” in the Magdalena Valley, Colombia: implications of cryptic species complexes in Northern South America. 3er Congreso Colombiano de Herpetología.

FIELD EXPERIENCE

- 2024** **Associate researcher to project: Evaluation of *Crocodylus intermedius* wild populations – National University of Colombia**
Colombia (Orinoquía and Amazon) – PI: Ana María Saldarriaga Gómez
- 2022 – 2024** **Herpetologist - BioAp Biología Aplicada S.A.S.**
Colombia (Magdalena Valley and Orinoquía), Costa Rica (Lowland forests), and Peru (Amazon)
- 2019** **Associate researcher to project: Integrative taxonomy of *Scinax* treefrogs – National University of Colombia**
Colombia (Magdalena Valley and Amazon) – PI: Ángela Suárez-Mayorga

CURATORIAL EXPERIENCE

- 2021 – 2022** **Collection curatorship assistance**
Tissue Collection Banco de Tejidos de la Biodiversidad Colombiana, Institute of Genetics, National University of Colombia
Collection director: Mario Vargas-Ramírez

GRANTS

- 2020** **Colombia Biodiversa 2019-II**
Fundación Alejandro Ángel Escobar
\$1,000

LANGUAGES

English: C1 IELTS

French: Advanced - Alliance Française

German: B1 Goethe Zertifikat

Italian: Advanced - Società Dante Alighieri

Spanish: Native