

María Paula Toro-Gómez

CONTACT DETAILS:

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CURRENT POSITION:

Researcher at Biological Collections and Species Management Centre
Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Villa
de Leyva, Colombia

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EDUCATION

UNIVERSIDAD DEL QUINDÍO, ARMENIA COLOMBIA

B.S. in Biology 2022

Thesis ¿El transporte de renacuajos en la espalda ha moldeado la evolución de la coloración de advertencia en ranas venenosas (Dendrobatidae)?

PUBLICATIONS

JOURNAL ARTICLES

Vargas-Salinas F, **Toro-Gómez MP**, Casas-Cardona S, López-Aguirre Y, Rojas-Montoya M & Duarte-Marín S. (2025). Smaller ones also matter: species diversity, collection patterns, and functional traits in the amphibian and reptile collection of the Universidad del Quindío, Colombia. *Biological Journal of the Linnean Society* (special issue: Mobilizing Natural History Collections in the Global South) 146(4).

Cañas JS, Kahl S, Denton T, **Toro-Gómez MP**, Rodríguez-Buriticá S, Benavides-López JL, ... & Joly A (2025) Overview of BirdCLEF+ 2025: Multi-Taxonomic Sound Identification in the Middle Magdalena, Colombia. *CLEF 2025-Working Notes of the Conference and Labs of the Evaluation Forum* 4038(232): 2909-2919.

Cañas JS, **Toro-Gómez MP**, M Sugai LS, et al. (2023) A dataset for benchmarking neotropical anuran calls identification in passive acoustic monitoring. *Scientific Data* 10, 771.

Montilla SO, Arcila-Pérez LF, **Toro-Gómez MP**, Vargas-Salinas F & Rada M (2023) Multidisciplinary approach reveals a new species of glassfrog from Colombia (Anura: Centrolenidae: Nymphargus). *Zootaxa* 5271(1): 1-48.

Toro-Gómez MP, Carvajal-Castro JD; Casas-Cardona S & Vargas-Salinas F (2023) Experimental evidence in a poison frog model suggests that tadpole transport on the dorsum may affects warning signal effectiveness in poison frogs. *Evolutionary Ecology* 37(2): 267 – 289*.

**Featured paper Evolutionary Ecology*

BOOK CHAPTERS

Rivera-Robles, D, Rojas-Montoya, M, **Toro-Gómez, MP**, López-Aguirre, Y, Vargas-Salinas, F. Sección III Puestas y larvas de los Anfíbios del departamento del Quindío, Colombia. In: Vargas-Salinas F, Ospina-L AM, Arcila-Pérez LF, Rios-Soto JA & Duarte-Marín S (Eds). (2025) *Anfibios del departamento del Quindío, Colombia*. Entropía Co, Colombia. pp 220-234.

Vargas-Salinas F, **Toro-Gómez MP**, Vergara-Herrera N, Tenorio EA & Rueda-Solano LA. (2025) Beyond species richness: a behavioural perspective of the anuran diversity in the Andes of Colombia. In: Urbina-Cardona N, Navas CA, Catenazzi A & Piantoni A (Eds). *Andean herpetofauna: Explorations of Diversity, Ecology, and*

MANUSCRIPT UNDER REVIEW OR IN PREPARATION

Toro-Gómez MP, Rivera-Robles DL, Diago-Toro MF, Casas-Cardona S, González-Acosta C & Vargas-Salinas F. Speckled Forest pit viper *Bothrops taeniatus*. In: Angarita-Sierra T & Ruiz-Gómez FJ (Eds). *Bites, venoms, and venomous snakes of Colombia*. Instituto Nacional de Salud: Bogotá DC, Colombia. In diagramming.

González-Acosta, C, **Toro-Gómez MP**. *Hyalinobatrachium aureoguttatum* (Barrera & Ruiz, 1989). Catalog of Amphibians and Reptiles of Colombia. In evaluation.

Toro-Gómez MP, López-Aguirre Y, Avellaneda-Mazzo JS, Montilla JS, González-Acosta C, Arcila-Pérez LF. Ecological insights into The Pijao's Glassfrog (*Nymphargus pijao*, Anura: Centrolenidae) In the Central Andes of Colombia: a chronicle of natural history observations. In preparation.

Betancourth-Cundar M, **Toro-Gómez MP**, Flórez Pai C, Posada-Vera MV, Ríos-Orjuela JC, O'Connell L. Impact of crude oil spills on the richness and functional diversity of amphibian communities in a biodiversity hotspot. In preparation.

Toro-Gómez MP, Barona-Cortes E, Martínez-Medina D. How does “Teitei” call? Advertisement call, activity patterns and acoustic monitoring tools of *Allobates wayuu* (Anura: Aromobatidae) at the Macuira National Natural Park, Colombia. In preparation.

RESEARCH EXPERIENCE AND POSITIONS

2024-25 Researcher at Environmental Sound Collection (CSA), Biological Collections and Species Management Centre, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Villa de Leyva, Colombia.

2024 Junior Researcher. Project: La Crisis silenciosas de los ríos y bosques del piedemonte Costero Nariñense: el impacto destructivo de los derrames de petróleo crudo. Programme Orquídeas – Ciencia para la Paz, Convocatoria 935. Minister of Science, Technology and Innovation, Colombia Government - Los Colibríes de Altaquer Ecological Foundation (FELCA) Nariño, Colombia.

2023 Bioacoustics herpetologist. Analysis of audio recordings from the SoundClim Brazil monitoring system, for the development of deep learning models for automatic audio classification. Project Chorus: Machine listening to monitor climate change impacts on neotropical amphibians. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt Bogotá, Colombia.

2022 Bioacoustics herpetologist. Design of annotation protocols, analysis of audio recordings, identification and recording of neotropical amphibian species, for the development of deep learning models for automatic audio classification. Project: Chorus Machine listening to monitor climate change impacts on neotropical amphibians. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt Bogotá, Colombia.

2021 Internship at the Environmental Sound Collection (CSA). Biological Collections Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Colombia. Director: Angela Maria Mendoza-Henao PhD.

- 2021** Herpetologist. Biological characterization of amphibians and reptiles for the property “El Tesoro de Bremen” Filandia, Quindío, Colombia.
- 2020** Teaching assistant at the Amphibian and Reptile Collection (ARUQ). University of Quindío, Armenia, Colombia.

GRANTS AND SCHOLARSHIPS

Total obtained ~ 28.287 USD.

Source	Amount	Year
International Travel Grant JBBA	500 EUR	2025
Travel Grant International Society of Behavioural Ecology ISBE	2.800 USD	2024
Grant AI for Interspecies Communication. Earth Species Project & Experiment (co-author)	10.000 USD	2023
Government-funded project Programme “Orquídeas - Science for Peace” Minister of Science, Technology and Innovation, Colombia Government (co-author)	12.000 USD	2023
Travel Award Society for the Study of Evolution SSE	1300 USD	2023
Scholarship for Academic Excellence, Quindío’s Government	1600 USD	2015

AWARDS

Award	Event	Year
Outstanding Student Poster Award American Society of Naturalist ASN	Annual Evolution meeting New Mexico, USA	2023
Best oral presentation Symposium Asociación Colombiana de Herpetología	III Congreso Colombiano de Herpetología Cali, Colombia	2022

ACADEMIC LEADERSHIP AND SERVICE

- 2025** Instructor (Science outreach program). “Bonplandia” Children’s Science Laboratory. Fundación Frailejones. Target audience: primary school students (2nd and 3rd grade) | Modality: in-person | Total teaching hours: March–November ≈72 contact hours.
- 2025** Instructor (Short course). *II Introductory Course on Bioacoustics for Herpetology*. Asociación Colombiana de Herpetología. Target audience: undergraduate students and early-career professionals | Modality: Hybrid | Modules: Passive acoustic monitoring; acoustic data repositories | Total teaching hours: ≈ 32 contact hours.
- 2024** Junior researcher Mentor (Science outreach event). *Campus 48 – XI National Meeting on Scientific Vocations* (XI Encuentro Nacional de Vocaciones Científicas), Ministry of Science, Technology and Innovation of Colombia (MinCiencias). Provided academic guidance and mentorship to participating students, supporting scientific vocations and research engagement among youth.

2020-25: Academic Committee Member, Red Ecoacústica Colombiana REC.

INVITED TALKS

- 2024** Biologist's Day Celebration (Invited Talk). Biology Program, Universidad del Quindío. (In-person) *Career development and professional experience as a biology graduate.*
- 2023** BioacousTalks (Talks series). K. Lisa Yang Center for Conservation Bioacoustics at the Cornell Lab of Ornithology. (Virtual) *Machine Learning for Tropical Acoustic Monitoring: Challenges and Opportunities.* [YouTube](#)

CONFERENCE PRESENTATIONS

Oral and poster presentations at academic conferences are indicated with an asterisk (*).

- 2025** IV Congreso Colombiano de Herpetología, Santa Marta, Colombia* (Symposium Co-organizer)
- 2025** Journées des Jeunes Bioacousticiens, JJBA, Vernon, France*
- 2025** I Congreso Ecuatoriano de Herpetología, Loja, Ecuador*
- 2024** II Congreso Colombiano de Bioacústica y Ecoacústica, Medellín, Colombia*
- 2024** International Society of Behavioural Ecology ISBE, Melbourne, Australia*
- 2023** Annual Evolution Meeting. SSE, ASN, SSB. Albuquerque, USA*
- 2022** I Congreso Colombiano de Bioacústica y Ecoacústica (Co-organizer)
- 2022** III Congreso Colombiano de Herpetología, Cali, Colombia*
- 2021** Virtual Evolution meeting – SSE Society for the Study of Evolution.
- 2021** Animal Behavior Society –ABS Virtual Conference.
- 2019** VII Simposio Colombiano de Biología Evolutiva COLEVOL, Tunja, Colombia.
- 2019** V Simposio Regional de Biología. Universidad Tecnológica de Pereira, Risaralda, Colombia.
- 2018** II Congreso Colombiano de Herpetología, Bogotá, Colombia.
- 2018** V Congreso Colombiano de Zoología, Bogotá, Colombia.
- 2017** VI Simposio Colombiano de Biología Evolutiva COLEVOL Universidad del Valle, Santiago de Cali, Colombia.

SCIENCE COMMUNICATION AND OUTREACH

- Research outcomes have been disseminated through regional and national television (*Telecafé; Caracol Televisión*), international press (*Miami Herald*), international digital platforms (BBC social media), and featured in science-focused podcasts and blogs (*Herpetological Highlights; Experiment Lab Notes Blog*).
- Featured scientist, *Ciencia Criolla* (Canal Zoom), short documentary produced by La Salita Estudio Audiovisual (2023). Recipient of the Jóvenes que Transforman 2023 national award.

For further details on media coverage and outreach activities, please visit: mariaportoro.github.io

COMPLEMENTARY ACADEMIC TRAINING

- 2024** Diploma in Social Appropriation of Knowledge with Territorial Focus. Virtual modality on Coursera. Minuto de Dios University Corporation - Ministry of Science, Technology, and Innovation, Colombia.
- 2024** Workshop on Animal Movement. Max Planck Institute & Universidad del Rosario. Bogotá, Colombia
- 2023** Evolutionary Genomics Workshop: Analysis of genomic and transcriptomic data. University of the Andes. Bogotá, Colombia
- 2022** Professional in Tourist Guidance. National Learning Service SENA, Armenia, Quindío, Colombia.
- 2022** Theoretical-practical course Bioacoustics tools for the study of biodiversity. Red Ecoacústica Colombiana, Arcabuco, Boyacá, Colombia.
- 2022** Evolutionary Biology Crash Course. evobiocrashcourse.github.io. Virtual.
- 2022** Course Morphometric tools for the analysis of acoustic data. UPTC, Tunja, Boyacá, Colombia.
- 2021** XXVI International Course on Biological Bases of Behaviour. UNAM, Morelia, Mexico. Virtual
- 2021** Workshop: Scientific writing articles and editorial process. UNAM, Morelia, Mexico. Virtual

FIELD EXPERIENCE

Central Andean Cordillera – Andean forests ecosystems (Quindío; 2021–2023); Chocó Biogeographic Region – Coastal piedmont ecosystems and humid tropical forests (Barbacoas, Tumaco, Nariño; 2024); Middle Magdalena Valley – Tropical Rainforest and humid lowland ecosystems (El Silencio Natural Reserve, Antioquia; 2024); Caribbean Coast – Dry Tropical Forest and arid to semi-arid coastal ecosystems (La Guajira; 2025).

PROFESSIONAL MEMBERSHIPS

International Society for Behavioural Ecology (ISBE); Society for the Study of Evolution (SSE); Asociación Colombiana de Herpetología (ACH)

LANGUAGES & FIELD-RELEVANT CERTIFICATIONS ⁽⁺⁾

Spanish: Native speaker, English: Advance, French: basic level

- + Professional Guide tourist (2022) (science communication & field logistics)
- + Open Water Diver PADI (2019)