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Education

Universidad Austral de Chile - PhD Ecology and Evolution

- Dissertation Advisor: Guillermo D'Elia
- Valdivia, Chile, 2021
- Thesis: "Evolución subterránea: delimitación de especies y genómica poblacional del camarón de vega del sur de Chile *Parastacus nicoleti* (Decapoda: Parastacidae)"

Universidad de Guayaquil - MSc. Natural Resources Management

- Dissertation Advisor: Juan M. Guayasamin
- Guayaquil, Ecuador, 2016
- Thesis: "Similitud Biogeográfica y ecología de la comunidad de anuros en el occidente de Ecuador"

Universidad de Guayaquil - BSc. Biology

- Guayaquil, Ecuador, 2005

Academic Positions

March 2022 – Present

Postdoctoral researcher. Research: Determinants of amphibian genomic diversity: Integrating traits, phylogeny and geography. University of New Mexico, Department of Biology, Albuquerque, USA. PI: Dr. Lisa N. Barrow.

April 2021 – February 2022

Postdoctoral associate. Research: Shedding light at the grey zones of the diversification of long-haired mice of the subgenus *Abrothrix* (Sigmodontinae): species delimitation and speciation genomics. Universidad Austral de Chile, Instituto de Ciencias Ambientales y Evolutivas, Valdivia, Chile. PI: Dr. Guillermo D'Elia.

May 2013 – February 2016

Researcher/teacher/coordinator. Research Coordinator at the Department of Research. Instructor at the School of Engineering. Editor Journal YACHANA. Universidad Laica Vicente Rocafuerte de Guayaquil. Ecuador.

October 2013 – February 2014

Laboratory teacher. Vertebrate Zoology and Morphology Animal courses. Universidad de Guayaquil, Facultad de Ciencias Naturales, Escuela de Biología. Guayaquil, Ecuador.

August 2008 – August 2010

Teacher Assistant. Vertebrate Zoology and Morphology Animal courses. Universidad de Guayaquil, Facultad de Ciencias Naturales, Escuela de Biología. Guayaquil, Ecuador.

Non-Academic Positions

January 2012 – May 2013

Project Coordinator. Project: “Guayaquil Ecológico”. Sub-secretary of marine and coastal management, Secretary of the Environment. Government of Ecuador. Guayaquil, Ecuador.

September 2010 – January 2012

Project Analyst. National Secretary of Scientific Research and Higher Education. Government of Ecuador. Guayaquil, Ecuador.

November 2005 – July 2008

Scientific Observer. Inter-American Tropical Tuna Commission (IATTC). Manta, Ecuador.

Publications

Journal Articles

undergraduate co-authors are indicated in italics and within an em dash symbol (—)

19. —Nava Martinez, M.—*£*, **Amador, L.***£*, Wiley, D.L.F., McDaniels, C. & Barrow, L.N. (2025). Population genomics of four co-distributed frog species in a barrier island system. *Biological Journal of the Linnean Society*, blae063, <https://doi.org/10.1093/biolinnean/blae063> £ These authors contributed equally to this work.
18. Franco-Mena, D., de la Riva, I., Vega-Yáñez, M.A., Batallas-Revelo, D., **Amador, L.**, Szekely, P., Cisneros-Heredia, D.F., Reyes-Puig, J.P., Venegas-Valencia, K., Galeano, S.P. & Guayasamin, J.M. (2024). Simplifying the *Centrolene buckleyi* complex (Amphibia: Anura: Centrolenidae): a taxonomic review and description of two new species. *PeerJ*, 12:e17712 <https://doi.org/10.7717/peerj.17712>
17. Narváez, A.E., Ayala-Varela, F., Cuadrado S., Cruz-García, K., Yáñez-Muñoz M.H. & **Amador, L.** (2024). Expansion of the brown anole distribution range in Ecuador: A case of urban spaces favoring the establishment of an opportunistic exotic species. *BioInvasions Records*, 13(2):373-384.
16. **Amador, L.**, —Arroyo-Torres, I.— & Barrow, L.N. (2024). Machine learning and phylogenetic comparative methods identify predictors of genetic diversity and structure in Neotropical amphibians. *Journal of Biogeography*, 51, 909-923. <https://doi.org/10.1111/jbi.14795>
15. **Amador, L.**, Leaché, A.D., Victoriano, P. Hickerson, M. & D’Elía, G. (2022). Genomic scale data shows that *Parastacus nicoleti* encompasses more than one species of burrowing continental crayfishes and that lineage divergence occurred with and without gene flow. *Molecular Phylogenetics and Evolution*, 169, 107443, <https://doi.org/10.1016/j.ympev.2022.107443>
14. Ortega-Andrade, H.M., Rodes, M., Cisneros-Heredia, D.F., Guerra, N., López, K., Sánchez-Nivicela, J.C., Armijos-Ojeda, D., Cáceres, J., Reyes-Puig, C., Quezada, A., Székely, P., Rojas-Soto, O., Székely, D., Guayasamin, J.M., Siavichay, F., **Amador, L.**, Betancourt, R., et al. (2021). Red List assessment for amphibian species of Ecuador: a multidimensional approach for their conservation. *PloS One*, 16(5): e0251027, <https://doi.org/10.1371/journal.pone.0251027>
13. **Amador, L.**, Victoriano, P. & D’Elía, G. (2021). Molecular species delimitation reveals hidden specific diversity within a freshwater burrowing crayfish (Decapoda: Parastacidae) from southern Chile. *Systematics and Biodiversity*, 19. <https://doi.org/10.1080/14772000.2020.1865471>

12. D'Elía, G, Canto, J., Ossa G., Verde-Arregoitia L., Bostelmann E., Iriarte A., **Amador, L.**, Quiroga-Carmona M., Hurtado, N., Cadenillas, R. & Valdez, L. (2020). Lista actualizada de los mamíferos vivientes de Chile. *Boletín del Museo Nacional de Historia Natural*, Chile, 69(2): 67 – 98.
11. —Cruz-García, K.—, Cisneros-Heredia, D.F, Sánchez-Nivicela, J.C. & **Amador, L.** (2020). New records of four reptile species (Lepidosauria, Squamata) from the province of Guayas, southwestern Ecuador. *Check List*, 16(3): 765 – 772. <https://doi.org/10.15560/16.3.765>
10. **Amador, L.**, Soto-Gamboa, M. & Guayasamin, J.M. (2019). Integrating alpha, beta, and phylogenetic diversity to understand anuran fauna along environmental gradients of tropical forests in western Ecuador. *Ecology & Evolution*, 9: 11040 – 11052. <https://doi.org/10.1002/ece3.5593>
Featured on the cover.
9. **Amador, L.**, Parada, A., D'Elía, G. & Guayasamin, J.M. (2018). Uncovering hidden specific diversity of Andean glassfrogs of the *Centrolene buckleyi* species complex (Anura: Centrolenidae). *PeerJ*, 6:e5856. doi: 10.7717/peerj.5856
8. **Amador, L.**, Ayala-Varela, F. Nárvaez, A.E., —Cruz, K.— & Torres-Carvajal, O. (2017). First record of the invasive brown anole *Anolis sagrei* Duméril and Bibron, 1837 (Squamata: Iguanidae: Dactyloinae) in South America. *Check List*, 13(3): 2083. doi: <https://doi.org/10.15560/13.3.2083>
7. Escribano-Ávila, G. Cervera, L., Ordoñez-Delgado, L., Jara-Guerrero, A., **Amador, L.**, Paladines, B., Briceño, J., Parés-Jiménez, L., Lizcano, D.J., Duncan, D.H. & Espinosa, C.I. (2017). Biodiversity patterns and ecological processes in tropical dry forest of the Ecuadorian province: the need to connect research & management for long-term conservation. *Neotropical Biodiversity*, 3(1): 107–116. doi: <http://dx.doi.org/10.1080/23766808.2017.1298495>
6. **Amador, L.**, —Gómez, C.—, —Londoño-Guarnizo C.—, —López-Caro, J.— & Arteaga A. (2017). Northernmost new records of *Enyalioides touzeti* Torres-Carvajal, Almendáriz, Valencia, Yáñez-Muñoz & Reyes, 2008 (Sauria: Hoplocercidae) from Ecuador: altitudinal and latitudinal distribution extension, new provincial and biogeographical record. *Check List*, 13(1): 2032, <https://doi.org/10.15560/13.1.2032>
5. Salazar-Valenzuela, D., Martins, A., Amador, L. & Torres-Carvajal (2015). A new species and country record of threadsnakes (Serpentes: Leptotyphlopidae: Epictinae) from northern Ecuador. *Amphibian & Reptile Conservation*, 8(1) [Special Section]: 107–120 (e89).
4. Amador, L. (2015). Fauna urbana de Guayaquil: el caso de los anfibios y reptiles, nuestros vecinos menospreciados. *Revista Científica Yachana*, 4: 181–188.
3. **Amador, L.** & —Brito, G.— (2013). Notas sobre la distribución y conservación de *Ceratophrys stolzmanni* (Steindachner, 1882) (Anura: Ceratophryidae) en Ecuador. *Revista Científica Yachana*, 2(2): 119- 122.
2. **Amador, L.** & Martínez, C.C. (2011). Anfibios presentes en cuatro localidades de la Cordillera Chongón Colonche, Ecuador. *Boletín Técnico 10, Serie Zoológica*, 7: 55-68.
1. Salvatierra B., Ortega J. & **Amador L.** (2010). Evaluación Ecológica Rápida de la Herpetofauna de la Cordillera Chongón-Colonche. *Revista de divulgación de la Dirección de Investigaciones y Proyectos Académicos*, 2(1): 51 – 74.

Manuscripts in review

Amador, L., Victoriano, P.F., Muñoz-Escobar, C. & D'Elía, G. Molecular systematics and single-locus species delimitation help to discover putative species in the freshwater crayfishes of genus *Virilastacus* Hobbs, 1991 (Decapoda: Parastacidae). In review, *Austral Ecology*. Preprint available: <https://www.biorxiv.org/content/10.1101/2025.06.30.662448v1.full>

Amador, L., Pelletier, T.A., Arroyo-Torres, I., —Bradley, H—., —Farmer, H—., McDaniels, C.X., Rosario Sanchez, E.O., Wiley, D.L.F., Erdmann, J., Barrow, L.N. Caudata macrogenetics: Species range size predicts intraspecific genetic variation in global salamanders. In review, *Global Ecology and Biogeography*. Preprint available: <https://www.biorxiv.org/content/10.1101/2025.01.24.634750v2>

Fellowships and Awards (\$ 167,500.00)

- 2025 Postdoc Travel Award. University of New Mexico. \$ 770
- 2023 New Mexico Postdoctoral Research Symposium. University of New Mexico - First place. \$ 300
- 2021 Research Incentive. Vicerrectoría de Investigación, Desarrollo y Creación Artística, Universidad Austral de Chile. \$ 210
- 2020 Scholarship Completion of Doctoral Thesis. Escuela de Graduados, Universidad Austral de Chile. \$ 1,400
- 2019 Research Incentive. Vicerrectoría de Investigación, Desarrollo y Creación Artística, Universidad Austral de Chile. \$ 320
- 2019 Internship Abroad Fellowship. Beca de Estadía en Centros de Investigación Científica, Tecnológica y Humanística, segundo semestre 2019, Universidad Austral de Chile. \$ 1,500
- 2019 Fellowship Doctoral Internships Abroad. Comisión Nacional de Investigación Científica y Tecnológica (CONICYT). \$ 6,800
- 2019 Congress Attendance Subsidy, IBS Quito 2019. Vicerrectoría de Investigación, Desarrollo y Creación Artística, Universidad Austral de Chile. \$ 150
- 2019 Course Scholarship. Bursary award towards the registration fee in the Wellcome Genome Campus Advance Course: Computational Molecular Evolution. \$ 1,100
- 2019 Fellowship Operational Costs for PhD Thesis Project. Comisión Nacional de Investigación Científica y Tecnológica (CONICYT). \$ 2,800
- 2018 Congress Attendance Subsidy, XXII International Congress of Genetics. Vicerrectoría de Investigación, Desarrollo y Creación Artística, Universidad Austral de Chile. \$ 150
- 2017 Scholarship for PhD students. Comisión Nacional de Investigación Científica y Tecnológica (CONICYT). \$ 45,000
- 2014 PhD Scholarship. Secretaría Nacional de Educación Superior, Ciencia, Tecnología e Innovación (SENESCYT). \$ 105,000
- 2010 MSc Scholarship. Universidad de Guayaquil, Facultad de Ciencias Naturales. \$ 2,000

Internship Experience

November 2019 – March 2020

The hickerlab - Community Population Genetics, PI: Dr. Michael Hickerson
Department of Biology, City College of New York (CCNY), City University of New York (CUNY),
New York, USA

December 2019

Leaché Lab - Evolutionary biology of reptiles & amphibians, PI: Dr. Adam Leaché
Department of Biology and Burke Museum, University of Washington, Seattle, USA

Teaching and Mentoring Experience

Teaching

- September 2022 – December 2022
University of New Mexico. Teaching Assistant, Biodiversity Informatics Course. Preparation of tutorials, course syllabi, and instructors for the classroom.
- August 2019 – December 2020
Universidad Austral de Chile. Teaching Assistant, Advanced Molecular Systematics. Preparation of classes, instructor. Classes were in person and online during the COVID pandemic.
- August 2014 – April 2015
Universidad Laica Vicente Roca fuerte de Guayaquil. Instructor of the Basic Statistics course to Engineering students.
- October 2013 – February 2014
Universidad de Guayaquil. Teaching Assistant, Laboratory of Zoology of Vertebrates and Animal Morphology.
- August 2008 – August 2010
Universidad de Guayaquil. Assistant Instructor, Zoology of Vertebrates and Animal Morphology.

Mentoring

- 2024 Project: Genetic variation and origin of the populations of the invasive *Anolis sagrei* in Ecuador.
Mentee: Celina Eberle, Undergraduate, University of New Mexico (Albuquerque, USA)
- 2024 Thesis: Spatial phylogenetics and climate change: distribution patterns on threatened Neotropical glassfrogs.
Mentee: Mateo A. Vega Yáñez, MSc student, Universidad San Francisco de Quito USFQ (Quito, Ecuador)
- 2023 - 2024 Project: Population genomics of Barrier-Island frogs.
Mentee: Maria Nava, Undergraduate, University of New Mexico (Albuquerque, USA)
- 2023 Project: Caracterización de la estructura de la comunidad de anuros en la comuna Salanguillo.
Mentee: Karen Gonzalez, Undergraduate, Universidad Peninsula de Santa Elena (Santa Elena, Ecuador)
- 2022 Project: Genetic diversity in Neotropical amphibians.
Mentee: Irvin Arroyo-Torres, Undergraduate, University of New Mexico (Albuquerque, USA)
- 2018 Project: Species delimitation in marine bivalve mollusks.
Mentee: Daniela Levicoy Mantilla, Master Student, Universidad Austral de Chile (Valdivia, Chile)

Selected Conference and Invited Presentations

- Determinants of intraspecific genetic variation in amphibians on a global scale. Evolution 2025, Athens, GA, USA. 2025
- Caudata macrogenetics: Species range size predicts intraspecific genetic variation in global salamanders. 3rd Joint Congress on Evolutionary Biology, Montreal, Canada. 2024
- Machine learning and phylogenetic models identify predictors of genetic variation in Neotropical amphibians. Inaugural New Mexico Postdoctoral Research Symposium, University of New Mexico, Albuquerque, NM, USA - First place presentation. 2023
- Life-history traits, phylogeny, or geography, what determines intraspecific genetic diversity in Neotropical amphibians? SSB 2023, 5th Standalone Meeting. The Society of Systematics Biologists, UNAM, Mexico City, Mexico. 2023
- Determinants of intraspecific genetic diversity in Neotropical amphibians. 2022 Joint Meeting of Ichthyologists and Herpetologists, Spokane, WA, USA. 2022
- Systematics and population genomics of the burrowing crayfish *Parastacus nicoleti* in Southern Chile. The Crustacean Society (TCS) Summer Meeting-Symposium: Integrative Studies of Freshwater Crayfish in South America. **Invited talk.** 2022

- Explorando mecanismos de diversificación: biogeografía histórica y límites de especies (Invited by the Club Eco-Evo Latinoamérica, Subgrupo de Biogeografía. **Invited talk**. 2021.
- SNPs a escala genómica determinan los límites de especies en el camarón de vega *Parastacus nicoleti* (Decapoda, Parastacidae). Primer Congreso Latinoamericano de Evolución CLEVOL. 2021
- Diversification in a biodiversity Hotspot: Species discovery and historical biogeography of a burrowing crayfish of southern Chile. International Biogeography Society's 2019 Humboldt 250 conference. Quito, Ecuador, **Award third best poster**. 2019
- First approach to the population genetic structure of *Parastacus nicoleti* (Decapoda) in southern Chile. XXII International Congress of Genetics (ICG), Foz do Iguaçu, Brazil. 2018
- Anfibios y Reptiles en el bosque seco de la costa ecuatoriana: diversidad, estado conservación y perspectivas. Workshop: Biodiversidad y procesos ecológicos del bosque seco tropical: estado y proyecciones. XXXIX Jornadas Nacionales de Biología. Loja, Ecuador. **Invited talk**. 2015

Memberships in Associations and Institutional Affiliations

- Society for the Study of Evolution (member).
- Amphibian Genomics Consortium (member).
- Instituto Biosfera. Universidad San Francisco de Quito, Ecuador. (Research associate).

Professional Service

Journal reviewer

Global Ecology and Biogeography, Hydrobiologia, EcoHealth, PeerJ, Herpetologica, Frontiers in Ecology and Evolution, Biological Journal of the Linnean Society, PLOS ONE, Ecology and Evolution, Ecography, Journal of Crustacean Biology, Zootaxa, South American Journal of Herpetology, Zoological Research, Neotropical Biodiversity, Basic and Applied Ecology, Diversity and Distributions, Science of the Total Environment, Biological Invasions.

Research reviewer

- Joint Meeting of Ichthyologists and Herpetologists 2022, Spokane, Washington.
- Research Days 2023 - 2024 - 2025, University of New Mexico, Albuquerque, New Mexico.
- Hamilton symposium, Evolution 2023 - 2024 (virtual).

Amphibian Specialist

- Lista Roja Nacional de Anfibios de Ecuador 2021. Dirección de Biodiversidad. Ministerio del Ambiente y Agua, Ecuador.
http://mesadeayuda.ambiente.gob.ec/Documentacion/Biodiversidad/listaroja_anfibios.pdf
- Workshop to establish the IUCN threat categories for Ecuadorian frogs. Amphibian specialist. Ecuador, 2016.
- Amphibian Species of the World. Online editions Version 6.0 (2013 to 2020).
- CITES Non-Detriment Findings (NDF) Specialist. Universidad de Guayaquil (2011 to 2014).

Selected Courses – Professional Development and Personal Enrichment

- 2020. Cornell SLiM workshop. Cornell University, Ithaca, NY, Estados Unidos.
- 2019. Wellcome Genome Campus Advanced Course: Computational Molecular Evolution. Hinxton, Inglaterra.
- 2019. Introduction to Geometric Morphometrics using R. Universidad de Concepción, Concepción, Chile
- 2018. Introducción a la genómica poblacional mediante RADSeq. AUSTRAL-omics. Valdivia, Chile.

- 2018. Evolutionary Theory: From Concepts to Biodiversity. Nottingham Trent University, Museo Nacional de Historia Natural. Santiago, Chile.
- 2017. Quito RADSeq Workshop. XI Congreso Latinoamericano de Herpetología. PUCE, Quito, Ecuador.
- 2016. Molecular community ecology of arbuscular mycorrhizal fungi (AMF). Advanced Postgraduate Course. Universidad Austral de Chile. Valdivia, Chile.
- 2016. EMBO practical course: Phylogenetics in the -omics era. Iquitos, Perú.