

# Luis Amador

Postdoctoral Researcher

Curriculum Vitae  
September 2022

 The University of New Mexico, CERIA, 302 Yale Blvd NE, Albuquerque, NM 87106  
 [sites.google.com/view/luisamador](https://sites.google.com/view/luisamador)  
 +1 505 975 4913  
 [laamador@unm.edu](mailto:laamador@unm.edu)  
 @luchoao  
 luchoamador  
 lucho-amador

## Summary

- I am an evolutionary biologist with a strong background on molecular systematics and population genetics. My areas of expertise include phylogenetics, landscape genomics, biogeography, taxonomy and bioinformatics.
- My research interests aim at unraveling the basis of the origin and evolution of biodiversity, using an integrative approach to address general conceptual questions in evolutionary biology and ecology.
- Recently, I have been focused on the study of the determinants of amphibian genetic diversity.
- I consider myself as an enthusiastic learner and I am open to new questions about the evolution of life.

## Main Skills

- Research: Ability to write scientific manuscripts, apply to grant proposals, experience working remotely and join research collaborations.
- Bioinformatics: Knowledge in Bash (Unix shell), high performance computers cluster environments, Python, R and advanced biostatistics, I have knowledge with several pipelines (e.g., ipyrad, stacks, gatk).
- Molecular evolution: Comparative genomics and analysis of large genomic datasets, phylogenetic analysis, population genomics analysis, mitogenome phylogenetics, landscape genomics and historical demography.
- Laboratory: I have knowledge in instrumentation and general equipment in molecular biology laboratories, reagent preparation, DNA extraction methods for several tissues, PCR amplification and electrophoresis.
- Other skills: historical biogeography analysis, geometric morphometric, fieldwork.

## Education

2016-2021	<b>PhD in Ecology and Evolution</b> Valdivia, Chile	Universidad Austral de Chile
2016	<b>MSc. Natural Resources Management</b> Guayaquil, Ecuador	Universidad de Guayaquil
2005	<b>BSc. Biology</b> Guayaquil, Ecuador	Universidad de Guayaquil

## Postdoctoral Experience

2022	<b>Determinants of amphibian genomic diversity: Integrating traits, phylogeny and geography</b> The University of New Mexico, Postdoctoral researcher - NSF Project, PI: Dr. Lisa Barrow
2021	<b>Shedding light at the grey zones of the diversification of long-haired mice of the subgenus <i>Abrothrix</i> (<i>Sigmodontinae</i>): species delimitation and speciation genomics</b> Universidad Austral de Chile, Research associate - Project Fondecyt No. 1180366, PI: Dr. Guillermo D'Elía

## Teaching Experience

### Undergraduate teaching

Sep 2022	<b>Teaching Assistant, Biodiversity Informatics Course</b> University of New Mexico	United States
Aug 2019 - Dec 2020	<b>Teaching Assistant, Advanced Molecular Systematics</b> Universidad Austral de Chile	Chile
Aug 2014 - Apr 2015	<b>Instructor, Basic Statistics</b> Universidad Laica Vicente Rocafuerte de Guayaquil	Ecuador
Oct 2013 - Feb 2014	<b>Teaching Assistant, Laboratory of Zoology of Vertebrates and Animal Morphology</b> Universidad de Guayaquil	Ecuador
Aug 2008 - Aug 2010	<b>Assistant Instructor, Zoology of Vertebrates and Animal Morphology</b> Universidad de Guayaquil	Ecuador

## Invited Lectures

July 2022	<b>Diversidad genética en Anfibios Neotropicales</b> Universidad Espíritu Santo	Ecuador
July 2021	<b>Anfibios del Occidente de Ecuador</b> Universidad Espíritu Santo	Ecuador

## Publications

### \* undergraduate co-author

- ▶ 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>.
- ▶ 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>
- ▶ 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>
- ▶ 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.
- ▶ 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>
- ▶ 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.
- ▶ Amador, L., Parada, A., D'Elía, G. & Guayasamin, J.M. (2018). Uncovering hidden specific diversity of Andean glass-frogs of the *Centrolene buckleyi* species complex (Anura: Centrolenidae). *PeerJ* 6:e5856. doi: 10.7717/peerj.5856
- ▶ 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>
- ▶ 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>
- ▶ 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. doi: <https://doi.org/10.15560/13.1.2032>
- ▶ Salazar-Valenzuela, D., Martins, A., Amador, L. & Torres-Carvajal (2015). A new species and country record of thread-snakes (Serpentes: Leptotyphlopidae: Epictinae) from northern Ecuador. *Amphibian & Reptile Conservation* 8(1) [Special Section]: 107–120 (e89).
- ▶ Amador, L. & Brito, J. (2013). Notas sobre la distribución y conservación de *Ceratophrys stolzmanni* (Steindachner, 1882) (Anura: Ceratophryidae) en Ecuador. *Revista Científica Yachana*, 2(2), pp. 119- 122.
- ▶ 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.
- ▶ Salvatierra B., Ortega J. & Amador L. (2010). Evaluación Ecológica Rápida de la Herpetofauna de la Cordillera Chongón-Colonche. *Investigación, Tecnología e Innovación. Revista de divulgación de la Dirección de Investigaciones y Proyectos Académicos. Vicerrectorado Académico. Universidad de Guayaquil. Vol. 2. N° 1. 51 -74 p.*

### Manuscripts in Preparation

- ▶ Amador, L., Victoriano, P.F., Muñoz-Escobar, C. & D'Elía, G. Molecular systematics and single-locus species delimitation help to discover candidate species in the freshwater crayfishes of genus *Virilastacus* Hobbs, 1991 (Decapoda: Parastacidae). Prepared for submit to *Journal of Crustacean Biology*. In revision of co-authors.

- Amador, L., Arroyo-Torres, I. & Barrow, L.N. Range size and latitude predict intraspecific genetic diversity in Neotropical amphibians.

## Presentations

### Invited Talks

- 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
- 2021 **Explorando mecanismos de diversificación: biogeografía histórica y límites de especies**  
Invitado por el Club Eco-Evo Latinoamérica, Subgrupo de Biogeografía. YouTube link: <https://www.youtube.com/watch?v=4rHDrJ8HEZA>
- 2020 **Especiación y criterios para definir especies**  
Webinar: Transformando ideas en ciencia, mitos y verdades de un posgrado. NEKAMU, Universidad de Guayaquil
- 2015 **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

### Speaker in Recent Seminars

- 2022 **Determinants of intraspecific genetic diversity in Neotropical amphibians**  
2022 Joint Meeting of Ichthyologists and Herpetologists, Spokane, WA
- 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
- 2020 **Diversidad oculta en un hotspot de biodiversidad: Una evaluación basada en ADNmt, SNPs y morfología entre poblaciones de un cangrejo de río excavador sudamericano**  
XLIV Jornadas Nacionales de Biología, Ecuador
- 2020 **El camarón de vega *Parastacus nicoleti* presenta alta diversidad genética estructurada geográficamente: implicancias para la delimitación de especies**  
Reunión anual conjunta. Sociedad Chilena de Evolución, Valdivia, Chile
- 2019 **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
- 2018 **First approach to the population genetic structure of *Parastacus nicoleti* (Decapoda) in southern Chile**  
XXII International Congress of Genetics (ICG), Foz do Iguaçu, Brazil
- 2017 **Aproximación a la biogeografía histórica de los parastácidos de América del Sur (Decapoda: Parastacidae)**  
XI Reunión Anual Sociedad Chilena de Evolución. Puerto Varas, Chile
- 2017 **Explorando la biogeografía histórica de los camarones dulceacuícolas de América del Sur (Decapoda: Parastacidae)**  
XIV Congreso Sociedad Chilena de Limnología. Puerto Montt, Chile
- 2017 **Filogenia y delimitación de especies dentro del complejo de especies *Hyloxalus infraguttatus* (Anura, Dendrobatidae)**  
XI Congreso Latinoamericano de Herpetología. PUCE Ecuador
- 2017 **The Brown Anole (*Anolis sagrei*) an invasive species now in the Southern Hemisphere**  
XI Congreso Latinoamericano de Herpetología. PUCE Ecuador

## Grant, Awards and Fellowships

- 2020 **Scholarship Completion of Doctoral Theses**  
Escuela de Graduados, Universidad Austral de Chile
- 2019 **Internship Abroad Scholarship**  
Beca de Estadía en Centros de Investigación Científica, Tecnológica y Humanística, segundo semestre 2019, Universidad Austral de Chile
- 2019 **Fellowship Doctoral Internships Abroad**  
Comisión Nacional de Investigación Científica y Tecnológica (CONICYT)
- 2019 **Course Scholarship**  
Bursary award towards the registration fee in the Wellcome Genome Campus Advance Course: Computational Molecular Evolution
- 2019 **Fellowship Operational Costs for PhD Thesis Project**  
Comisión Nacional de Investigación Científica y Tecnológica (CONICYT)
- 2017 **Doctoral Scholarship**  
Comisión Nacional de Investigación Científica y Tecnológica (CONICYT)

- 2014            **Doctoral Scholarship**  
Secretaría Nacional de Educación Superior, Ciencia, Tecnología e Innovación (SENESCYT)
- 2009            **Research grant**  
Conservation of threatened amphibians in the coast of Ecuador. University of Guayaquil, Direction of Investigation and Academic Projects (DIPA)
- 2008            **Research grant**  
Rapid Ecological Assessment of the Herpetofauna in the Cordillera Chongón Colonche. University of Guayaquil, Direction of Investigation and Academic Projects (DIPA)

### Professional Service

- *Journal reviewer.* South American Journal of Herpetology, Zoological Research, Neotropical Biodiversity, Basic and Applied Ecology, Diversity and Distributions, Science of the Total Environment, Biological Invasions.
- *Judge.* Joint Meeting of Ichthyologists and Herpetologists 2022. Spokane, Washington.
- *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/listaraja\\_anfibios.pdf](http://mesadeayuda.ambiente.gob.ec/Documentacion/Biodiversidad/listaraja_anfibios.pdf)
- *Contributor.* Amphibian Species of the World. Online editions Version 6.0 (2013 to 2020) .
- *Amphibian Specialist.* Workshop to establish the IUCN threat categories for Ecuadorian frogs. Amphibian specialist. Ecuador, 2016.

### Professional memberships

Society for Molecular Biology & Evolution, American Society of Ichthyologists and Herpetologists, Red Nacional de Investigación sobre Biodiversidad (RedBio),

### Outreach

#### Online blog articles

- 2022. Natural history short note: Observation of the attempt of predation of *Thamnophis proximus* on *Pseudacris crucifer*. <https://sites.google.com/view/luisamador/fieldwork/fieldwork-usa>
- 2017. *Anolis sagrei* Now in the Southern Hemisphere, First Record for South America. <https://www.anoleannals.org/author/luisamador/>

#### Selected Media Coverage

- 2022. Reptiles y anfibios como mascotas: una cuestión ética y ecológica. This content was published on La Revista, El Universo Newspaper. <https://www.eluniverso.com/larevista/ecologia/reptiles-y-anfibios-como-mascotas-una-cuestion-etica-y-ecologica-nota/>
- 2020. Estudio presenta nueva información y los primeros registros de cuatro especies de reptiles en la provincia del Guayas. Noticias INABIO. <http://inabio.biodiversidad.gob.ec/2020/07/03/estudio-presenta-nueva-informacion-y-los-primeros-registros-de-cuatro-especies-de-reptiles-en-la-provincia-del-guayas/>
- 2017. La Lagartija superinvasora. Expreso Newspaper. <https://www.expreso.ec/actualidad/lagartija-superinvasora-50726.html>
- 2009. Anfibios y reptiles de la Cordillera Chongón-Colonche. El Herald newspaper. Ambato, Ecuador.
- 2009. Investigación en universidades se ajusta a déficit en presupuestos. El Universo Newspaper. Guayaquil, Ecuador.
- 2009. Con estudios, 3 universidades trabajan a favor de la Tierra. El Universo Newspaper. Guayaquil, Ecuador.