

## DAVID SALAZAR-VALENZUELA

Center for Biodiversity and Climate Change Research  
Universidad Tecnológica Indoamérica, Quito, Ecuador

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## PROFESSIONAL PREPARATION

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- 2016            **PhD, Evolution, Ecology, and Organismal Biology.** The Ohio State University
- 2007            **B.Sc., Biology.** The Pontifical Catholic University of Ecuador

## APPOINTMENTS

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- 2016-present    Professor – Universidad Indoamérica, Quito, Ecuador
- 2023            Visiting researcher – Instituto Butantan, São Paulo, Brazil.
- 2016            Postdoctoral Fellow – The Ohio State University
- 2014            Graduate Research Assistant – The Ohio State University
- 2012-2015      Graduate Teaching Assistant – The Ohio State University
- 2010-2011      Fulbright Scholar – The Ohio State University
- 2011-2015      Research Associate– Museum of Zoology QCAZ/Pontifical Catholic University of Ecuador
- 2007-2009      Researcher – Museum of Zoology QCAZ/The Pontifical Catholic University of Ecuador
- 2007            Biological Field Technician - Montana Natural Heritage Program/University of Montana
- 2007            Biological Field Technician - Idaho Conservation Data Center

## SCIENTIFIC PRODUCTION

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### PEER-REVIEWED JOURNAL ARTICLES

- (24) Carrasco, PA, C Koch, FG Grazziotin, P Venegas, JC Chaparro, GJ Scrocchii, **D Salazar-Valenzuela**, GC Leynaud and CI Mattoni. 2023. Total-evidence phylogeny and evolutionary morphology of New World pitvipers (Serpentes: Viperidae: Crotalinae). *Cladistics* (In Press).
- (23) Loaiza-Lange, A, D Székely, O Torres-Carvajal, N Tinoco, **D Salazar-Valenzuela** and P Székely. 2023. Feeding ecology of the Terciopelo pitviper snake (*Bothrops asper*) in Ecuador. *PeerJ* (In Press).
- (22) Rödel, MO, A Loaiza-Lange, J Penner, KD Neira-Salamea and **D Salazar-Valenzuela**. 2023. A mouth full of blood–autohaemorrhaging in three Ecuadorian snakes (Squamata: Colubridae & Tropidophiidae). *Herpetology Notes* 16: 25-30.
- (21) Hernández-Altamirano, JA, **D Salazar-Valenzuela**, EJ Medina-Villamizar, DR Quirola, K Patel, S Vaiyapuri, B Lomonte and JR Almeida. 2022. First insights into the venom composition of two Ecuadorian coral snakes. *International Journal of Molecular Sciences* 23: 14686.
- (20) Jaynes, KE, MI Páez-Vacas, **D Salazar-Valenzuela**, JM Guayasamin, A Terán-Valdez, FR Siavichay, SW Fitzpatrick and LA Coloma. 2022. Harlequin frog rediscoveries provide insights into species persistence in the face of drastic amphibian declines. *Biological Conservation* 276: 109784.

- (19) Patiño, RSP, **D Salazar-Valenzuela**, AA Robles-Loaiza, P Santacruz-Ortega and JR Almeida. 2022. A retrospective study of clinical and epidemiological characteristics of snakebite in Napo province, Ecuadorian Amazon. *Transactions of The Royal Society of Tropical Medicine and Hygiene*, trac071.
- (18) Vera-Palacios, AL, JD Sacoto-Torres, JA Hernández-Altamirano, A Moreno, MC Peñuela-Mora, **D Salazar-Valenzuela**, NGS Mogollón and JR Almeida. 2022. A first look at the inhibitory potential of *Urospatha sagittifolia* (Araceae) ethanolic extract for *Bothrops atrox* snakebite envenomation. *Toxins* 14: 496.
- (17) Patiño, RSP, **D Salazar-Valenzuela**, E Medina-Villamizar, B Mendes, C Proaño-Bolaños, SL da Silva and JR Almeida. 2021. *Bothrops atrox* from Ecuadorian Amazon: initial analyses of venoms from individuals. *Toxicon*. 193: 63–72.
- (16) Mora-Obando, D, **D Salazar-Valenzuela**, D Pla, B Lomonte, JA Guerrero-Vargas, S Ayerbe, HL Gibbs and JJ Calvete. 2020. Venom variation in *Bothrops asper* lineages from north-western South America. *Journal of Proteomics* 229: 103945.
- (15) Timms, J, JC Chaparro, PJ Venegas, **D Salazar-Valenzuela**, G Scrocchi, J Cuevas, G Leynaud, and PA Carrasco. 2019. A new species of pitviper of the genus *Bothrops* (Serpentes: Viperidae: Crotalinae) from the Central Andes of South America. *Zootaxa* 4656: 99–120.
- (14) **Salazar-Valenzuela, D**, U Kuch, O Torres-Carvajal, JH Valencia, and HL Gibbs. 2019. Divergence of tropical pitvipers promoted by independent colonization events of dry montane Andean habitats. *Journal of Biogeography* 46: 1826–1840.
- (13) Akcali, CK, HA Pérez-Mendoza, **D Salazar-Valenzuela**, D Kikuchi, JM Guayasamin, and DW Pfennig. 2019. Evaluating the utility of camera traps in field studies of predation. *PeerJ* 7: e6487.
- (12) Torres-Carvajal, O, G Pazmiño-Otamendi, and **D Salazar-Valenzuela**. 2019. Reptiles of Ecuador: a resource-rich online portal, with dynamic checklists and photographic guides. *Amphibian & Reptile Conservation* 13: 209–229.
- (11) Gibbs, HL, M Sovic, D Amazonas, H Chalkidis, **D Salazar-Valenzuela**, and A Moura. 2018. Recent lineage diversification in a venomous snake through dispersal across the Amazon River. *Biological Journal of the Linnean Society* 123: 651–665.
- (10) Pomerantz, A, N Peñafiel, A Arteaga, L Bustamante, F Pichardo, LA Coloma, CL Barrio-Amorós, **D Salazar-Valenzuela**, and S Prost. 2018. Real-time DNA barcoding in a rainforest using nanopore sequencing: opportunities for rapid biodiversity assessments and local capacity building. *GigaScience* 7: 1–14.
- (9) Arteaga, A, **D Salazar-Valenzuela**, K Mebert, N Peñafiel, G Aguiar, JC Sánchez-Nivicela, RA Pyron, TJ Colston, DF Cisneros-Heredia, MH Yáñez-Muñoz, PJ Venegas, JM Guayasamin, and O Torres-Carvajal. 2018. Systematics of South American snail-eating snakes (Serpentes, Dipsadini), with the description of five new

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species from Ecuador and Peru. *Zookeys* 766: 79–147.

(8) **Salazar-Valenzuela, D**, A Martins, L Amador-Oyola, and O Torres-Carvajal. 2015. A new species and country record of threadsnakes (Serpentes: Leptotyphlopidae: Epictinae) from northern Ecuador. *Amphibian & Reptile Conservation* 8: 107–120.

(7) **Salazar-Valenzuela, D**, D Mora-Obando, ML Fernández, A Loaiza-Lange, HL Gibbs, and B Lomonte. 2014. Proteomic and toxicological profiling of the venom of *Bothrocophias campbelli*, a pitviper species from Ecuador and Colombia. *Toxicon* 90: 15–25.

(6) **Salazar-Valenzuela, D**, O Torres-Carvajal, and P Passos. 2014. A new species of *Atractus* (Serpentes: Dipsadidae) from the Andes of Ecuador. *Herpetologica* 70: 350–363.

(5) **Salazar-Valenzuela, D**, EO Carrillo, and S Aldás. 2010. *Tricheilostoma anthracinum*: geographic distribution. *Herpetological Review* 41: 111–112.

(4) Bravo, F and **D Salazar-Valenzuela**. 2009. A new species of *Sycorax* Curtis (Diptera, Psychodidae, Sycoracinae) collected on harlequin frogs (Anura: Bufonidae, *Atelopus*) in the Ecuadorian Andes. *Zootaxa* 2093: 37–42.

(3) Passos, P, DF Cisneros-Heredia, and **D Salazar-Valenzuela**. 2007. Rediscovery and redescription of the rare Andean snake *Atractus modestus*. *Herpetological Journal* 17: 1–6.

(2) Proaño-Bolaños, C, A Merino-Viteri, P Peña-Loyola, and **D Salazar-Valenzuela**. 2007. A midaltitude report of *Batrachochytrium dendrobatidis* in Ecuador. *Froglog* 82: 3–4.

(1) Boada, C, **D Salazar-Valenzuela**, A Freire Lascano, and U Kuch. 2005. The diet of *Bothrops asper* (Garman, 1884) in the Pacific lowlands of Ecuador. *Herpetozoa* 18: 77–79.

## BOOKS

(1) Bahamonde, D, K Giler, V Ruiz, **D Salazar-Valenzuela**, C Salgado, C Silva, J Venegas, H Villalba and A Viteri. 2017. Manejo clínico del envenenamiento por mordeduras de serpientes venenosas y picaduras de escorpiones. Protocolo basado en evidencia. Ministerio de Salud Pública, Dirección Nacional de Prevención y Control y Dirección Nacional de Normatización, Quito.

## ORAL AND POSTER PRESENTATIONS

Mejía-Guerrero, M et al. “Transcriptomic analyses in a neglected lineage of South American pitvipers: venom toxin diversity in Toad-headed pitvipers (genus *Bothrocophias*)”.

**2022** *Gordon Research Conference: Venom evolution, function and biomedical applications – Mount Snow, Vermont, USA.*

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Salazar-Valenzuela, D et al. “Divergence of tropical pitvipers promoted by independent colonization events of montane Andean habitats”.

**2021** *Virtual Evolution Conference* organized by the Society for the Study of Evolution, Society of Systematic Biologists, and the American Society of Naturalists.

Salazar-Valenzuela, D et al. “An evolutionary framework for venom variation patterns in terciopelo pitvipers (*Bothrops asper*), a model organism in toxinology”.

**2019** *20th World Congress of the International Society on Toxinology. “Toxinology in the 21<sup>st</sup> century: Public health impact from basic, translational and clinical sciences” – Buenos Aires, Argentina.*

Salazar-Valenzuela, D. “Diversification in the Neotropics: evidence from phylogenomic patterns, historical demography processes, and venom variation in lancehead pitvipers”.

**2018** *Gordon Research Conference: Venom evolution, function and biomedical applications – Mount Snow, Vermont, USA.*

Salazar-Valenzuela, D et al. “Diversification in neotropical snakes: evidence from phylogenomic patterns, historical demography processes, and natural history data of pitviper and coral snakes”.

**2017** *XI Latin American Congress of Herpetology – Quito, Ecuador.*

Salazar-Valenzuela, D et al. “Phylogenomics and species delimitation in the *Bothrops asper* complex: an almost-model organism”.

**2015** *Society for Systematic Biologists Meeting – Ann Arbor, Michigan, USA.*

Salazar-Valenzuela, D, D Mora-Obando, ML Fernández, A Loaiza-Lange, HL Gibbs, and B Lomonte. “Proteomic analysis of the venom of *Bothrocophias campbelli*, a pitviper species from Ecuador and Colombia”.

**2014** *Biology of the Pitvipers 2 Symposium – Tulsa, Oklahoma, USA.*

Salazar-Valenzuela, D. “Challenges and goals of snakebite research in Ecuador. Case study of the “ultimate pitviper” (*Bothrops asper*)”.

**2012** *National Meeting of Infectious Disease Research and Tropical Medicine – Quito, Ecuador.*

Salazar-Valenzuela, D, A Freire-Lascano, and U Kuch. “The pitviper *Bothrops asper* as a cause of snakebite accidents on an interandean valley in southern Ecuador”.

**2008** *Global Issues in Clinical Toxinology Meeting – Melbourne, Australia.*

Salazar-Valenzuela, D, A Freire-Lascano, and U Kuch. “Envenoming by the Ecuadorian hognose pitviper (*Porthidium arcosae*): an accident report with notes on distribution and ecology”.

**2008** *Global Issues in Clinical Toxinology Meeting – Melbourne, Australia.*

Salazar-Valenzuela, D and A Merino-Viteri. “Demography of chytrid-infected populations of harlequin frogs (*Atelopus* sp.)”.

**2007** *Joint Meeting of Ichthyologists and Herpetologists – Saint Louis, MO, USA.*

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Salazar-Valenzuela, D, C Boada, A Freire-Lascano, and U Kuch. "The diet of *Bothrops asper* in the Pacific lowlands of Ecuador".

**2004** *Ecuadorian Meeting of Biology – Guayaquil, Ecuador.*

## GRANTS AND FUNDING

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2022	Universidad Tecnológica Indoamérica internal research grant - \$153,425
2021	Ecuadorian corporation for research and academia development - \$25,500
2021	Environmental Fund Distrito Metropolitano de Quito - \$7,800
2020	Hamish Ogston Foundation Education Grant (Snakebite) - £5,000
2019	Wellcome Genome Campus Advanced Courses Travel Grant - \$1,800
2017	Universidad Tecnológica Indoamérica internal research grant - \$142,637
2016	Ernst Mayr Grant, Museum of Comparative Zoology, Harvard University - \$1,500
2015	University of Illinois Travel Grant - \$500
2014	The Ohio State University Graduate School's Alumni Grant for Graduate Research and Scholarship - \$2,000
2013	German Research Foundation (Deutsche Forschungsgemeinschaft) Grant to support the initiation of international collaboration - \$10,000
2012	Tinker Field Research Grant - \$1,300
2010	Department of Evolution, Ecology, and Organismal Biology at The Ohio State University /Columbus Zoo Co-operative Grant - \$10,000
2007	Society for the Study of Amphibians and Reptiles Travel Grant - \$200
2006	Natural History Museum of Geneva, Switzerland Travel Grant- \$1,000
2005	Conservation International Travel Grant - \$250

## TRAINING AND WORKSHOPS

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August 23-27, 2022	Building collaborations to investigate urban eco-evolutionary dynamics across the LTER network workshop. Rutgers University/National Science Foundation
November 23-27, 2020	Genome assembly and annotation. Center of Genomic Sciences/National Autonomous University of Mexico
January 20-25, 2019	Next Generation Sequencing Bioinformatics. Department of Biological Sciences/The Pontifical Catholic University of Chile
May 18-19, 2015	New methods in Phylogenomics and Metagenomics. Department of Ecology and Evolutionary Biology/University of Michigan
January 13-14, 2012	Estimating species trees workshop. Department of Statistics/The Ohio State University
June 22-26, 2009	Species distribution modelling and its application in conservation, ecology, and evolution. Fundación Yasuní/Pontificia Universidad Católica del Ecuador.

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March 1-10, 2005 Standardized techniques of survey and monitoring for the Tropical Andean region. Conservation International/Darwin Initiative. Tarapoto, Peru.  
February 18-23, 2005 Care, maintenance, and conservation of natural history collections. Kansas University and Pontificia Universidad Católica del Ecuador.

## FELLOWSHIPS AND RECOGNITIONS

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2023 Visiting Researcher Instituto Butantan – São Paulo Research Foundation (\$35,000)  
2022-present Fulbright Ambassador – Fulbright Commission Ecuador  
2021-present Snakebite Envenoming Roster of Experts and Technical Advisory Group - World Health Organization  
2010-2011 Fulbright Scholarship to attend Graduate School at The Ohio State University, United States (\$35,796)  
2010-2011 The Ohio State University Fellowship Award (\$65,628)  
2009 Lewis Anthony Dexter Fellow in Tropical Conservation Biology - University of Florida (\$25,000; declined)  
2000-2001 The Pontifical Catholic University of Ecuador Fellowship Award (\$1,400)

## TEACHING EXPERIENCE

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2016-present Principal Professor. Universidad Tecnológica Indoamérica, Quito, Ecuador. Evolution, Zoology, Practical Field Techniques, Introduction to Statistics, Conservation Biology, Research design.  
2019-2020 Certification Program in Higher Education and Research. CIFE, Mexico (320 hours).  
2016 Guest Lecturer. Evolution course. Department of Evolution, Ecology and Organismal Biology. The Ohio State University, Columbus, Ohio, United States.  
2011-2015 Graduate Teaching Assistant, The Ohio State University, Columbus, Ohio, United States. Evolution, Introductory Biology (Cell and Molecular Biology), Introductory Biology (Ecology and Evolution), Biology of Dinosaurs.  
2010 Herpetology. Master of Science Program in Conservation Biology. Pontificia Universidad Católica del Ecuador.

## LANGUAGES

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Spanish Native speaker  
English Fluent. Certificate of competency, The University of Michigan, and graduate studies in the United States  
French Fluent. Certificate DELF-B2, Alliance Française, Quito, Ecuador  
Portuguese Intermediate. Individual online courses

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## PROFESSIONAL SERVICE AND MEMBERSHIPS

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2023	Guest Editor. Special Issue titled "Global and transdisciplinary research on venom evolution, function, and applications". Toxins scientific journal (Impact factor: 5.075).
2015	Reviewer for scientific projects submitted to Comisión Nacional de Investigación Científica y Tecnológica (CONICYT). Fondo Nacional de Desarrollo Científico y Tecnológico (FONDECYT). Government of Chile.
2010-present	Co-editor of the Encyclopedia of Reptiles of Ecuador (ReptiliaWebEcuador): <a href="https://bioweb.bio/faunaweb/reptiliaweb/">https://bioweb.bio/faunaweb/reptiliaweb/</a>
2019-present	International Society of Toxinology
2015-present	Society for the Study of Evolution
2013-present	Society for the Study of Amphibians and Reptiles

Professional reviewer for: Molecular Ecology, Molecular Phylogenetics and Evolution, PLOS Neglected Tropical Diseases, Toxicon, Journal of Proteomics, Zootaxa, Revista de Biología Tropical, Biotropica, Neotropical Biodiversity, The Anatomical Record, Amphibian and Reptile Conservation, Revista Ecuatoriana de Medicina y Ciencias Biológicas, Revista Mexicana de Biodiversidad

## PERSONAL REFERENCES

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H. Lisle Gibbs, Ph.D. Professor, The Ohio State University, USA.	gibbs.128@osu.edu
Inácio de L. M. Junqueira de Azevedo, Ph.D. Researcher, Butantan Institute, Brazil.	inacio.azevedo@butantan.gov.br
Juan J. Calvete, Ph.D. Researcher, Institute of Biomedicine of Valencia, Spain.	jcalvete@ibv.csic.es
José María Gutiérrez, Ph.D. Professor, Clodomiro Picado Institute, University of Costa Rica.	jose.gutierrez@ucr.ac.cr
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