Nelson R. Salinas

Gerstner Postdoctoral Fellow
Invertebrate Zoology Division
American Museum of Natural History
Central Park West at 79th Street
New York, NY 10024-5192
212-313-7622
nsalinas@amnh.org, nrsalinas@gmail.com

Education

2009–2015: PhD. in Biology, City University of New York.

1999–2005: Biology (BS), Universidad Nacional de Colombia, Bogotá.

Teaching

BIO 184 – Plants and People. Spring 2013, Lehman College – City University of New York. Science requirement for non-biology major undergraduates.

Programming and scripting languages

Python, Cython, Perl, Latex, SQL, R.

Professional information

July 2015–present: Gerstner Postdoctoral fellow, American Museum of Natural History, New York. Advisor: Ward C. Wheeler (curator, Division of Invertebrate Zoology).

March–June 2015: Research associate, Fundación Reserva Natural Centro de Investigación La Palmita, Trinidad, Casanare, Colombia. Supervisor: Miguel Eduado Rodriguez P. (research director).

2013–2015: Curatorial assistant, structural botany collection, Pfizer Plant Research Laboratory, New York Botanical Garden. Supervisor: Lisa M. Campbell (administrative curator).

2009–2012: Curatorial assistant, The William and Lynda Steere Herbarium, New York Botanical Garden. Supervisor: Lawrence M. Kelly (director of graduate studies program).

2005–2009: Research associate, Herbario Amazónico Colombiano COAH, Instituto Amazónico de Investigaciones Científicas SINCHI, Bogotá, Colombia. Supervisor: Dairon Cárdenas López (COAH director).

February–June 2006: Research associate, Herbario Nacional Colombiano COL, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá. Supervisor: Rodrigo Bernal (director of the project "Catalogue of the Plants of Colombia").

2004–2005: Herbarium assistant, Herbario Nacional Colombiano COL, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá. Supervisor: Julio Betancur (General curator).

Research projects

2015–present: "Areas of Endemism and uncertainty: implementing a Hidden Markov Random Field approach." Postdoctoral project.

March–July 2015: "Plant Diversity, Physiognomy and Conservation status of savannas in Casanare department, Colombia." Coordinated by Carolina Mora Fernández and Miguel Eduardo Rodríguez P. (Fundación Reserva Natural La Palmita, Trinidad, Casanare, Colombia).

2009-2014: "Systematics and Biogeography of *Orthaea* Klotzsch (Ericaceae: Vaccinieae)." Doctoral dissertation project. Thesis advisor: Paola Pedraza-Peñalosa (Institute of Systematic Botany, New York Botanical Garden).

2006–2007: "Use and management of nine plant species from Amazonas department, Colombia." Directed by Dairon Cárdenas López and Nicolás Castaño (Colombian Amazonian Herbarium COAH, Instituto Amazónico de Investigaciones Científicas SINCHI, Bogotá, Colombia).

2005–2007: "Red book of threatened timber species of Colombia." Directed by Dairon Cárdenas López, (Colombian Amazonian Herbarium COAH, Instituto Amazónico de Investigaciones Científicas SINCHI, Bogotá, Colombia).

2004: "Illustrated Flora of San José de Suaita (Santander, Colombia)." Coordinated by José C. Murillo (Colombian National Herbarium COL, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá, Colombia).

2003–2004: "Biodiversity assessment of selected groups of flora and fauna from opposite slopes on the Oriental cordillera of Colombia." Coordinated by Eduardo Flórez (Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá, Colombia).

2003–2004: "Ericaceae of the western slope of Nariño." B.S. thesis project. Thesis advisor: Julio Betancur (Colombian National Herbarium COL, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá).

2002–2003: "Bromeliads of the Vaupés department (Colombia)." Coordinated by Julio Betancur (Colombian National Herbarium COL, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá).

2001–2011: "Checklist of the Colombian Costaceae." Supervised by Julio Betancur (Colombian National Herbarium COL, Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá).

Research fellowships and awards

GCA Award in Tropical Botany, Garden Club of America, 2013 competition (US$5,000.00).

Graduate Student Award from the Society of Systematic Biologists, 2011 competition (US$1,700.00).

Graduate Research Award, American Society of Plant Taxonomists, 2011 competition (US $800.00).

Books

Betancur, J., A. Zuluaga, L. Clavijo, Z. Cordero-P. & N. R. Salinas. 2007. Santa María pintada de flores. Serie Guías de Campo del Instituto de Ciencias Naturales No. 1. Universidad Nacional de Colombia, Instituto de Ciencias Naturales, Bogotá, Colombia.

Cárdenas L., D. & N. R. Salinas (eds.). 2007. Libro rojo de plantas de Colombia. Volumen 4. Especies maderables amenazadas: Primera parte. Serie libros rojos de especies amenazadas de Colombia. Instituto Amazónico de Investigaciones Científicas SINCHI – Ministerio de Ambiente, Vivienda y Desarrollo Territorial, Bogotá, Colombia.

Salinas, N. R. & J. Betancur. 2005. Las ericáceas de la vertiente pacífica de Nariño, Colombia. Universidad Nacional de Colombia, Instituto de Ciencias Naturales - Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Bogotá, Colombia.

Chapters in books

Salinas, N. R. & J. Betancur. 2016. Costaceae, pp. 1114–1117. In: R. Bernal, S. R. Gradstein & M. Celis (eds.). Catálogo de plantas de Colombia. Universidad Nacional de Colombia, Instituto de Ciencias Naturales, Bogotá, Colombia.

Salinas, N. R., J. Betancur & A. Zuluaga. 2016. Zingiberaceae, pp. 2482–2485. In: R. Bernal, S. R. Gradstein & M. Celis (eds.). Catálogo de plantas de Colombia. Universidad Nacional de Colombia, Instituto de Ciencias Naturales, Bogotá, Colombia.

Salinas, N. R. & J. Betancur. 2011. Costaceae, pp. 422–423. In: A. Idárraga, R. del C. Ortíz, R. Callejas & M. Merello (eds.). Flora de Antioquia: catálogo de las plantas vasculares. Vol. II Listado de las plantas vasculares del departamento de Antioquia. Programa Expedición Antioquia-2013. Series Biodiversidad y Recursos Naturales. Universidad de Antioquia, Missouri Botanical Garden & Oficina de Planeación Departamental de la Gobernación de Antioquia. Editorial DV́inni, Bogotá, Colombia.

Cordero, Z., N. R. Salinas, S. Suárez & D. Cárdenas. 2007. Novedades florísticas y afinidades fitogeográficas, pp. 119–131. In: D. Cárdenas (ed.). Flora del escudo guayanés en Inírida (Guainía, Colombia). Instituto Amazónico de Investigaciones Científicas SINCHI - Ministerio de Ambiente, Vivienda y Desarrollo Territorial, Bogotá, Colombia.

Articles

Salinas, N. R. & W. C. Wheeler. Statistical Modeling of Distribution Patterns: a Markov Random Field Implementation and its Application on Areas of Endemism. Submitted to Systematic Biology.

Pedraza-Peñalosa, P., N. R. Salinas, A. L. Virnig & W. C. Wheeler. 2015. Preliminary phylogenetic analysis of the Andean clade and the placement of new Colombian blueberries (Ericaceae, Vaccinieae). Phytokeys 49: 13-31. http://dx.doi.org/10.3897/phytokeys.49.8622

Salinas, N. R. & P. Pedraza-Peñalosa. 2015. Three new species of *Orthaea* (Ericaceae: Vaccinieae). Brittonia 67(2): 96-104. http://dx.doi.org/10.1007/s12228-014-9358-9

Salinas, N. R. & D. P. Little. 2014. 2matrix: A Utility for Indel Coding and Phylogenetic Matrix Concatenation. Applications in Plant Sciences 2(1): 1300083. http://dx.doi.org/10.3732/apps.1300083.

Pedraza-Peñalosa, P., N. R. Salinas & W. C. Wheeler. 2013. Venation patterns of Neotropical blueberries (Vaccinieae: Ericaceae) and their phylogenetic utility. Phytotaxa 96(1): 1–53. http://dx.doi.org/10.11646/phytotaxa.96.1.1.

Salinas, N. R. & D. P. Little. 2012. Electric LAMP: Virtual Loop-Mediated Isothermal AMPlification. ISRN Bioinformatics 2012: 696758. http://dx.doi.org/10.5402/2012/696758.

Cárdenas-López, D., J. Betancur, N. R. Salinas, A. Zuluaga & L. Clavijo. 2010. De Jirijirimo a Caparú: una expresión de la diversidad vegetal en el río Apaporis. Revista Colombia Amazónica, Nueva Época 2: 5–56.

Salinas, N. R., J. Betancur & L. Clavijo. 2007. Una nueva especie de *Costus* (Costaceae) de la amazonia colombiana. Caldasia 29 (2): 1–7.

Salinas, N. R. & J. Betancur. 2007. Novedades taxonómicas de las ericáceas del suroccidente de Colombia. Caldasia 29(1): 51-58.

Betancur, J. & N. R. Salinas. 2006. El ocaso de *Pseudaechmea* (Bromelioideae: Bromeliaceae). Caldasia 28(2): 157–164.

Salinas, N. R. & J. Betancur. 2004. Una nueva especie de *Dimerocostus* (Costaceae) de Colombia. Revista de La Academia Colombiana de Ciencias Exactas, Físicas y Naturales. 28(109): 465–470.

Betancur, J. & N. R. Salinas. 2003. Una especie nueva de *Guzmania* (Bromeliaceae) de La Amazonía Colombiana y notas sobre las especies relacionadas. Revista de La Academia Colombiana de Ciencias Exactas, Físicas y Naturales 27 (102): 15–24.

Software

Salinas, N. R. 2016. Gloria (**G**eographic **L**ocation - hidden mark**O**v **R**andom f**I**eld **A**nalysis) v. 0.2: A Python utility to delimit areas of endemism using Hidden Markov Random Fields. https://github.com/nrsalinas/gloria.

Dorey, J. E. & N. R. Salinas. 2016. CoRNS.py v. 1.0.1: A Python utility for Complementary Reserve Network Selection. doi: 10.5281/zenodo.200391. https://github.com/jedorey/CoRNS.py.

Salinas, N. R. & D. P. Little. 2013. 2matrix: A Utility for Indel Coding and Phylogenetic Matrix Concatenation. https://github.com/nrsalinas/2matrix.

Salinas, N. R. & D. P. Little. 2012. Electronic LAMP: virtual Loop–mediated isothermal AMPlification. http://www.nybg.org/files/scientists/dlittle/eLAMP.html.

Conferences

January 8–10, 2017: Society of Systematic Biologists, standalone meeting, Baton Rouge,

Louisiana. “Statistical modeling of areas of endemism: a Markov random field approach”, contributed talk.

October 4–8, 2016: Willi Hennig Society Meeting, Buenos Aires, Argentina. “Statistical Modeling of Areas of Endemism: a Markov Random Field Approach”, contributed talk, symposium of Historical Biogeography.

July 26–30, 2014: Botany 2014, Boise, Idaho. “Biogeographic history of Andean Vaccinieae (Ericaceae)”, contributed talk, Systematics Section – American Society of Plant Taxonomists.

April 24–25, 2014: Botanical Symposium “Location, Location, Location... New Advances in the Science of Biogeography”, Department of Botany, National Museum of Natural History, Smithsonian Institution, Washington DC. “Biogeographic history of Andean Vaccinieae (Ericaceae)”, poster.

July 7–11, 2012: Botany 2012, Columbus, Ohio. “Uncovering venation patterns in Neotropical blueberries (Vaccinieae: Ericaceae) and their value for systematics”, contributed talk, Developmental & Structural Section - Botanical Society of America.

April 21–27, 2007: Fourth Colombian Botanical Congress, Medellín. Contributed talk in “An introduction to the monocots of Colombian” symposium.

November 7–12, 2004: Third Colombian Botanical Congress, Popayán. Poster.

October 13–18, 2002: Eight Latin American Botanical Congress and Second Colombian Botanical Congress, Cartagena, Colombia. Poster.

Workshops

January 7–8, 2017: Analysis of fossil, molecular, and biogeographic data in RevBayes. Society of Systematic Biologists, standalone meeting, Baton Rouge, Louisiana.

July 27–29, 2016: RGGS Workshop on Genomics and Bioinformatics. Richard Gilder Graduate School, American Museum of Natural History, New York.

July 26, 2014: A target enrichment method for gathering phylogenetic information from hundreds of loci: an example from the Compositae, a.k.a. Asteraceae. Botany 2014 Workshop, Boise, Idaho.

March 10–17, 2012: Bodega Applied Phylogenetics Workshop, University of California–Davis, Bodega Bay Marine Laboratory.

June 28–July 2, 2010: Willi Hennig Society Eleventh International Workshop in Phylogenetic Methods. Ohio State University, Columbus.