

## **Nelson R. Salinas**

Instituto de Investigación de Recursos Biológicos Alexander von Humboldt  
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### **Education**

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

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

### **Professional information**

May 2020–present: Postdoctoral researcher, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. Supervisor: Carolina Castellanos (adjunct researcher, Biodiversity Science Program).

August–December 2019: Consultant, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. Supervisor: Carolina Castellanos (adjunct researcher, Biodiversity Science Program).

November 2017–April 2019: Data analyst, Instituto de Hidrología, Meteorología y Estudios Ambientales IDEAM. Supervisor: Juan Fernando Phillips (leader, Carbon Stock Monitoring Group).

July 2015–July 2017: 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 Eduardo Rodríguez 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).

## Publications

- Salinas, N. R. Taxonomic novelties in *Orthaea* (Ericaceae: Vaccinieae). *Caldasia*. Accepted.
- Salinas, N. R. & W. C. Wheeler. 2020. Statistical Modeling of Distribution Patterns: a Markov Random Field Implementation and its Application on Areas of Endemism. *Systematic Biology* 69(1): 76–90. <https://doi.org/10.1093/sysbio/syz033>.
- Aguirre-Santoro, J., N. R. Salinas & F. A. Michelangeli. 2019. The Impact of Geographic Disjunction on the Evolutionary Dynamics of *Ronnbergia* and *Wittmackia* (Bromeliaceae: Bromelioideae). *Botanical Journal of the Linnean Society*, published online on november 21, 2019. <https://doi.org/10.1093/botlinnean/boz087>.
- Salinas, N. R., M. F. González, E. Hernández-A. & J. Betancur. 2019. A new species of *Plutarchia* (Ericaceae) from Chingaza Natural National Park, Colombia. *Brittonia* 71(3): 347–352. <https://doi.org/10.1007/s12228-019-09582-z>.
- Rodríguez-Veiga, P., A. P. Barbosa-Herrera, J. S. Barreto-Silva, P. C. Bispo, E. Cabrera, C. Capachero, G. Galindo, Y. Gou, L. M. Moreno, V. Louis, P. Lozano, A. M. Pacheco-Pascagaza, I. P. Pachón-Cendales, J. F. Phillips-Bernal, J. Roberts, N. R. Salinas, L. Vergara, A. C. Zuluaga & H. Balzter. 2019. Mapping the spatial distribution of Colombia's forest aboveground biomass using SAR and optical data. *International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences*, XLII-3/W7: 57–60. <https://doi.org/10.5194/isprs-archives-XLII-3-W7-57-2019>.
- 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.
- 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>.

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 D'Vinni, Bogotá, Colombia.

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.

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.

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.

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

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

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

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.

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 (Geographic Location - hidden markOv Random fIeld Analysis) 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>.

### **Grants and research fellowships**

Environment and Sustainable Development Ministry (Colombia) grant to assess the extinction risk of threatened flora 2020-2022 (US\$450,000, on behalf of Instituto Alexander von Humboldt and Instituto de Ciencias Naturales).

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).

### **Conferences**

July 25–29, 2017: Botany 2017, Fort Worth, Texas, EEUU. “Statistical Modeling of Areas of Endemism: a Markov Random Field approach”, contributed talk in the biogeography section – American Society of Plant Taxonomists.

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.

### **Teaching**

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

2015877 – Introduction to Plant Biology (laboratory). First semester 2018, Department of Agronomical Sciences, Universidad Nacional de Colombia, Bogotá. Science requirement for Biology and Agronomy major undergraduates.

Introduction to Python 2.7. April 2018. Instituto de Hidrología, Meteorología y Estudios Ambientales IDEAM, Bogotá, Colombia. Introductory course for environmentalists with no prior computational knowledge.