

# J. Sebastián Tello, Ph.D.

*Curriculum Vitae - May 2015*

## ***Assistant Scientist***

Center for Conservation and Sustainable Development  
Missouri Botanical Garden

### CONTACT

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- Website: <http://jsebastiantello.weebly.com/>

### RESEARCH AND PROFESSIONAL EXPERIENCE

- 2013 – Present. ***Assistant Scientist***. Center for Conservation and Sustainable Development. Missouri Botanical Garden.
- 2015 – Present. ***Adjunct Professor***. Department of Biology. Washington University in Saint Louis.
- 2015 – Present. ***Adjunct Professor***. Department of Biology. University of Missouri – Saint Louis.
- 2009 – Present. ***Research Associate***. Escuela de Biología. Pontificia Universidad Católica del Ecuador.
- 2011 – 2013. ***Postdoctoral Fellow***. Center for Conservation and Sustainable Development. Missouri Botanical Garden.
- 2006 and 2008. ***Research Assistant***. Project: Bat flies like an EMu. Field Museum of Chicago.
- 2004. ***Researcher***. Project: Evaluating and monitoring system of the biodiversity in the Reserva de Producción Fuanística Cuyabeno: bases for its implementation (UCODEP Project Cuyabeno Reserve, AIDCO/B7-6200/0380/01/TF). Pontificia Universidad Católica del Ecuador.

### EDUCATION

- 2011. ***Ph.D.*** Dissertation: Diversity gradients at geographic scales: effects of environmental characteristics and stochastic diversification. Advisor – Dr. Richard D. Stevens. Department of Biological Sciences. Louisiana State University.
- 2005. ***Licenciatura***. Thesis: Ecological relationships between bats of the genus *Carollia* (Chiroptera: Phyllostomidae) and their dipteran ectoparasites (Diptera: Streblidae). Advisor – Lic. Santiago Burneo. Escuela de Ciencias Biológicas. Pontificia Universidad Católica del Ecuador.
- 2005. ***Field course***. Tropical ecology and conservation. Organization for Tropical Studies.

### PUBLICATIONS

#### *Peer-reviewed:*

- **Tello, J.S.**, Myers, J.A., Macía, M.J., et al. 2015. Elevational gradients in  $\beta$ -diversity reflect variation in the strength of local community assembly mechanisms across spatial scales. PLoS ONE 10, e0121458.

- Arellano, G., Loza, M.I., **Tello, J.S.** and Macía, M.J. 2014. Commonness and rarity determinants of woody plants in different types of tropical forests. *Biodiversity Conservation* 24, 1073–1087.
- Stevens, R.D. and **Tello, J.S.** 2014. On the measurement of dimensionality of biodiversity. *Global Ecology and Biogeography* 23, 1115–1125.
- McCulloch, E.S., **Tello, J.S.**, Whitehead, A., Rolón-Mendoza, C.M.J., Maldonado-Rodríguez, M.C.D. and Stevens, R.D. 2013. Fragmentation of Atlantic forest does not yet prevent gene flow of a widespread seed-dispersing bat. *Molecular Ecology* 22, 4619–4633.
- Stevens, R.D., **Tello, J.S.** and Gavilanez, M.M. 2013. Stronger tests of the mid-domain effect on latitudinal gradients of biodiversity: insights from the dimensionality of biodiversity. *PLoS ONE* 8, e56853.
- Stevens, R.D. and **Tello, J.S.** 2012. Do desert rodents form metacommunities? *Journal of Mammalogy* 93, 1029–1041.
- **Tello, J.S.** and Stevens, R.D. 2012. Murciélagos, características ambientales y efectos de mitad de dominio (Bats, environmental characteristics and mid-domain effects). In Tirira, D., Burneo, S. and Boada, C. (eds.). *Investigación y conservación de los murciélagos del Ecuador*.
- **Tello, J.S.** and Stevens, R.D. 2012. Can stochastic models of geographical evolution recreate macroecological richness-environment correlations? *Global Ecology and Biogeography* 21, 212–223.
- Stevens, R.D., Gavilanez, M.M., **Tello, J.S.** and Ray, D.A. 2012. Phylogenetic structure illuminates the mechanistic role of environmental heterogeneity on community organization. *Journal of Animal Ecology* 81, 455–462.
- Stevens, R.D. and **Tello, J.S.** 2011. Diversity begets diversity: relative roles of structural and resource heterogeneity in determining rodent community structure. *Journal of Mammalogy* 92, 387–395.
- **Tello, J. S.** and Stevens, R. D. 2010. Multiple environmental determinants of regional species richness and effects of geographic range size. *Ecography* 33, 796–808.
- Carrera, J.P., Solari, S., Larsen, P.A., Alvarado, D.F., Brown, A.D., Carrión-B., C., **Tello, J.S.** and Baker, R.J. 2010. Bats of the tropical lowlands of western Ecuador. *Special Publications. Museum of Texas Tech University. Number 57.*
- Stevens, R.D. and **Tello, J.S.** 2009. Micro- and macro-habitat associations of rodents in Mojave Desert rodent communities. *Journal of Mammalogy* 90, 388–403.
- **Tello, J.S.**, Stevens, R.D. and Dick, C.W. 2008. Patterns of species co-occurrence and density compensation: a test for interspecific competition in bat ectoparasite infracommunities. *Oikos* 117, 693–702.

***In review:***

- *Arellano, G., Tello, J.S., Jørgensen, P.J., et al.* In review. Disentangling environmental and spatial processes of community assembly in tropical forests from local to regional scales. Submitted to *Oikos*.
- *Arellano, G., Loza, M.I., Tello, J.S., et al.* In review. Tropical canopy trees, treelets, shrubs, and lianas have very different patterns of rarity. Submitted to *Biotropica*.

***In preparation:***

- **Tello, J.S.**, Jiménez, I., Jørgensen, P.M., et al. In preparation. Elevational range size and temperature variability in the tropical Andes. To be submitted to *The American Naturalist*.

***Other:***

- **Tello, J.S.** 2011. Diversity gradients at geographic scales: effects of environmental characteristics and stochastic diversification. 2005. Ph.D Dissertation. Louisiana State University.

- **Tello, J.S.** 2005. Relaciones ecológicas entre murciélagos del género *Carollia* (Chiroptera: Phyllostomidae) y sus dípteros ectoparásitos (Diptera: Streblidae). Licenciatura Thesis. Pontificia Universidad Católica del Ecuador.
- Fonseca, R.M., Carrera-E, J.P., Enríquez, T., Lasso, D.O., Pinto, C.M., **Tello, J.S.**, Novoa, J. and Viteri, X. 2003. Identificación preliminar de un corredor ecológico para mamíferos entre los Parques Nacionales Llanganates y Sangay. *Revista de la Pontificia Universidad Católica del Ecuador*, Nro. 71.

## CONTRIBUTED PRESENTATIONS

- **Tello, J.S.**, Jiménez, I., Loza-Rivera, M.I., Macía, M.J., Fuentes-Claros, A.F., Cayola-Pérez, L., Arellano, G., Cornejo-Mejía, M., Torrez, V.W. and Jørgensen, P. 2015. The historical assembly of communities along a 4,000-m elevational gradient in the Andes of Bolivian. Meeting of the Network for Neotropical Biogeography. Smithsonian Tropical Research Institute. Panama, Panama.
- Peyre, G., **Tello, J.S.**, Font, X., and Balslev, H. 2015. Large-scale patterns of variation in species richness in the Páramo region and its environmental determinants. International Biogeography Society Biennial Meeting. Bayreuth, Germany.
- Arenas-Navarro, M., **Tello J.S.** and Téllez-Valdés, O. 2014. Patrones de diversidad beta de la familia Leguminosae en México. Congreso Latinoamericano de Botánica. Salvador – Bahia, Brazil.
- **Tello, J.S.**, Jørgensen, P., Myers, J.A., Macía, M.J., Fuentes-Claros, A.F., Cayola-Pérez, L., Arellano, G., Cornejo-Mejía, M., and Loza-Rivera, M.I., Quisbert-Quispe, J. and Torrez, V.W. 2013. Elevational gradients in  $\beta$ -diversity reflect both regional effects and scale-dependent variation in the strength of local assembly processes. Meeting of the Association for Tropical Biology. San José, Costa Rica.
- Myers, J.A., **Tello, J.S.**, Jørgensen, P., Araujo-Murakami, A., Cayola-Pérez, L., Cornejo, M., Fuentes, A., Loza-Rivera, M.I. 2013. Untangling determinism and stochasticity in local tree neighborhoods across a tropical biodiversity gradient. Meeting of the Association for Tropical Biology. San José, Costa Rica.
- Arenas-Navarro, M., Téllez-Valdés, O., Mugía-Romero, M. and **Tello J.S.** 2013. Variación geográfica en riqueza de las leguminosas en México y su relación con la energía y la estabilidad ambiental. Congreso Mexicano de Botánica. Tuxtla Gutiérrez, Chiapas, Mexico.
- **Tello, J.S.**, Jiménez, I., Jørgensen, P., Myers, J.A., Macía, M.J., Fuentes-Claros, A.F., Cayola-Pérez, L., Arellano, G., Cornejo-Mejía, M., Loza-Rivera, M.I., Quisbert-Quispe, J. and Torrez, V.W. 2012. Efectos de  $\gamma$ -diversidad y muestreo en la  $\beta$ -diversidad a lo largo de un gradiente elevacional en la región de Madidi (Bolivia). Congreso Boliviano de Botánica y Congreso Latinoamericano de Etnobiología. La Paz, Bolivia.
- **Tello, J.S.**, Jiménez, I., Jørgensen, P., Myers, J.A., Macía, M.J., Fuentes-Claros, A.F., Cayola-Pérez, L., Arellano, G., Cornejo-Mejía, M., Loza-Rivera, M.I., Quisbert-Quispe, J. and Torrez, V.W. 2012.  $\beta$ -diversity,  $\gamma$ -diversity, and community assembly along a tropical elevational gradient. 97th. annual meeting of the Ecological Society of America. Portland, Oregon, USA.
- Stevens, R.D. and **Tello, J.S.** 2012. Dimensionality of biodiversity of Phyllostomidae. North American Symposium on Bat Research, San Juan, Puerto Rico.
- Stevens, R.D. and **Tello, J.S.** 2012. Biodiversity of Noctilionoid bats is less dimensional than expected. Meeting of the American Society of Mammalogists, Reno, Nevada, USA.
- Loza, M.I., **Tello, J.S.**, Jiménez, I. and Jørgensen, P. 2012. Rarity of woody plants in the Madidi region (Bolivia). St. Louis Behavior, Ecology, Evolution, and Systematics Retreat. St. Louis, Missouri, USA.
- **Tello, J.S.** and Stevens, R.D. 2010. Applying stochastic models of geographic evolution to explain species richness gradients and species-environment relationships of bats in the New World. *Evolution* 2010. Portland, Oregon, USA.

- Stevens, R.D., **Tello, J.S.** and Gavilanez, M.M. 2010. Stronger tests of mid-domain effects on latitudinal biodiversity gradients of New World bats. International Bat Research Conference. Prague, Czech Republic.
- Stevens, R.D., **Tello, J.S.**, Gavilanez, M.M. and Ray D.A. 2010. Phylogenetic structure illuminates mechanistic role of environmental heterogeneity on community organization. Meeting of the American Society of Mammalogists, Laramie, Wyoming, USA.
- **Tello, J.S.** and Stevens, R.D. 2009. Simulating random species-environment relationships at broad geographic extents. Meeting of the Ecological Society of America. Albuquerque, New Mexico, USA.
- Stevens, R.D., Gavilanes, M.M., **Tello, J.S.** and Ray, D.A. 2009. Phylogenetic structure illuminates mechanistic role of resource diversity on community organization. Meeting of the Ecological Society of America. Albuquerque, New Mexico, USA.
- **Tello, J.S.** and Stevens, R.D. 2008. Energy, heterogeneity, seasonality, and scale: the species-environment relationship in New World bats. Meeting of the Ecological Society of America. Milwaukee, Wisconsin, USA.
- **Tello, J.S.**, Stevens, R.D. and Dick, C.W. 2007. A test for interspecific competition in bat ectoparasites: patterns of species co-occurrence and density compensation. Meeting of the American Society of Mammalogists. Albuquerque, New Mexico, USA.
- Stevens, R.D. and **Tello, J.S.** 2007. Integrating biotic interactions into the empirical examination of metacommunity structure. Meeting of the American Society of Mammalogists. Albuquerque, New Mexico, USA.
- **Tello, J.S.** and Stevens, R.D. 2006. Structure of a desert rodent metacommunity: local environment vs. regional dispersal. 86th. Meeting of the American Society of Mammalogists. Amherst, Massachusetts, USA.
- Stevens, R.D. and **Tello, J.S.** 2006. Quantitative habitat characteristics of rodents in the Eastern Mojave Desert underlie spatial variation in community structure. Meeting of the American Society of Mammalogists. Amherst, Massachusetts, USA.
- **Tello, J.S.**, Fonseca, R.M., Carrera, J.P., Alvarado, D.F., Brown, A.D., Carrión-B.C., Dick, C.D., Higginbotham, J., Hoffmann, F., Larsen, P.A., Parish, D., Phillips, C., Solari, S. and Baker, R.J. 2004. Bats of western Ecuador: preliminary results of the Sowell expeditions (2001 and 2004). Meeting of the Ecuadorian Biology Society. Guayaquil, Ecuador.
- **Tello, J.S.** and Jarrín-V, P. 2003. Ecological relationships between bats of the genus *Carollia* (Chiroptera: Phyllostomidae) and their dipteran ectoparasites (Diptera: Streblidae): preliminary results. Meeting of the American Society of Mammalogists. Lubbock, Texas, USA.
- **Tello, J.S.** and Fonseca-N, R.M. 2002. Techniques for the collection and study of mammal ectoparasites. Workshop: Introduction to field techniques for the study of mammals. Quito, Ecuador.
- **Tello, J.S.** 2002. Ecological interactions between bats of the genus *Carollia* and *Sturnira* and their dipteran ectoparasites of the family Streblidae. Meeting of the Ecuadorian Biology Society. Quito, Ecuador.

## INVITED PRESENTATIONS

- **Tello, J.S.**, Jiménez, I., Loza-Rivera, M.I., Myers, J.A., Macía, M.J., Fuentes-Claros, A.F., Cayola-Pérez, L., Arellano, G., Cornejo-Mejía, M., Torrez, V.W. and Jørgensen, P. 2015. The evolutionary and ecological assembly of a tropical flora along an elevational gradient in the Bolivian Andes. Department of Biology, Seminar. Kansas State University.

- **Tello, J.S.**, Jiménez, I., Loza-Rivera, M.I., Myers, J.A., Macía, M.J., Fuentes-Claros, A.F., Cayola-Pérez, L., Arellano, G., Cornejo-Mejía, M., Torrez, V.W. and Jørgensen, P. 2015. The evolutionary and ecological assembly of a tropical flora along an elevational gradient in the Bolivian Andes. Department of Biology, Seminar. Saint Louis University.
- **Tello, J.S.**, Jiménez, I., Loza-Rivera, M.I., Myers, J.A., Macía, M.J., Fuentes-Claros, A.F., Cayola-Pérez, L., Arellano, G., Cornejo-Mejía, M., Torrez, V.W. and Jørgensen, P. 2014. The evolutionary and ecological assembly of a tropical flora along an elevational gradient in the Bolivian Andes. Department of Biology, Seminar. Washington University.
- **Tello, J.S.**, Jiménez, I., Loza-Rivera, M.I., Myers, J.A., Macía, M.J., Fuentes-Claros, A.F., Cayola-Pérez, L., Arellano, G., Cornejo-Mejía, M., Torrez, V.W. and Jørgensen, P. 2013. The evolutionary and ecological assembly of a tropical flora along an elevational gradient in the Bolivian Andes. 60<sup>th</sup> Annual Systematics Symposium. Missouri Botanical Garden. Saint Louis, Missouri, USA.
- **Tello, J.S.**, Stevens, R.D. and Gavilanez, M.M. 2011. The role of mid-domain effects on geographic gradients in biodiversity: Phylogenetic, functional, and phenetic perspectives. St. Louis Behavior, Ecology, Evolution, and Systematics Retreat. St. Louis, Missouri, USA.

## TEACHING AND MENTORING

### *R* basics workshop:

Website: <http://rbasicsworkshop.weebly.com/>

- Kansas State University. **Instructor**. March 25 to 27, 2015. Manhattan, Kansas, USA.
- Montana State University. **Co-Instructor** (with Iván Jiménez). October 8 to 10, 2014. Bozeman, Montana, USA.
- Universidad Autónoma de México. **Instructor**. September 17 to 19, 2014. Mexico City, Mexico.
- Missouri Botanical Garden. **Co-Instructor** (with Iván Jiménez). May 28 to 30, 2014. Saint Louis,
- Missouri Botanical Garden. **Co-Instructor** (with Iván Jiménez). May 22 to 24, 2013. Saint Louis,
- II Congreso Boliviano de Botánica. **Co-Instructor** (with Iván Jiménez). October 5 to 7, 2012. La Paz, Bolivia.
- Herbario Nacional de Bolivia. **Co-Instructor** (with Iván Jiménez). October 15 to 17, 2012. La Paz,

### *Basics of Null Models in R:*

Website: <http://nullmodelsinr.weebly.com/>

- Universidad Autónoma de México. **Instructor**. September 22 to 24, 2014. Mexico City, Mexico.

### *Courses:*

- Principles of ecology, laboratory. **Teaching Assistant**. Fall 2006 to Spring 2010. Department of Biological Sciences, Louisiana State University.

### *Invited lectures:*

- *Null Models in Ecology and Biogeography* in Community Ecology (J. Myers, instructor). Washington University. Spring 2014 and Spring 2015.
- *Loops and Randomizations* in R Workshop in Biology (J. Myers, instructor). Washington University. Fall 2014.
- *The Ecology and Evolution of Biodiversity along Broad-Scale Environmental Gradients* in Applications in Geographic Information Systems (GIS) (K. DeMatteo, instructor). University of Missouri, St. Louis. Spring 2014.

### *Students mentored:*

- *Gwendolyn Peyre*. Patterns of plant-diversity in the Páramo Ecoregion of the Northern Andes. Ph.D. student at Universidad de Barcelona and Aarhus University.
- *Miguel Muñoz-Mazon*. Determinants of community composition in species-poor and species-rich communities. M. Sc. student at Wageningen University.
- *Maribel Arenas-Navarro*. Biogeografía de las Leguminosae de México: Patrones de riqueza, endemismo y diversidad beta. M. Sc. student at Universidad Autónoma de México.
- *Gabriel Arellano*. Disentangling environmental and spatial processes of community assembly in tropical forests from local to regional scales. Ph.D. student at Universidad Autónoma de Madrid.

## GRANTS AND AWARDS

- From the Andes to the Amazon: Climate change and tropical forest dynamics along a large-scale elevational gradient in Madidi National Park, Bolivia. 2015. PI: Jonathan A. Myers; Co-PIs: Peter M. Jørgensen, **J. Sebastián Tello**, Iván Jiménez, Alfredo Fuentes, Leslie Cayola, Rosa Isela Meneses and Laia Andreu Hayles. International Center for Advanced Renewal Energy and Sustainability (I-CARES), Washington University in St. Louis; \$32,000.

### *Other:*

- LSU Dissertation Fellowship. 2010. Louisiana State University; \$18,000.
- Graduate travel award. 2009. Louisiana State University; \$600.
- Travel awards. 2008/2009/2010. Biograds, Louisiana State University; \$900.
- Graduate enhancement award. 2005-2009. Louisiana State University; \$12,000.
- Morphometrical analysis of the bats of the genus *Anoura* along an altitudinal gradient in Ecuador. 2004. Idea Wild; \$1,300 in equipment.

## FIELD EXPERIENCE

- 2005 – 2006. **Research Assistant**. Louisiana State University. August 2005 to June 2006. Project: Climatically induced nonequilibria determine temporal metacommunity dynamics.
- 2004. **Field research assistant**. Texas Tech University – Sowell Expedition 2004. Project: Genetic diversity and phylogeography of the small mammal fauna of the western side of the Andes in Ecuador. - Pontificia Universidad Católica del Ecuador.
- 2002. **Field research assistant**. Fundación Natura. Project: Identification of an ecological corridor between the Llanganates and Sangay National Parks.
- 2001. **Field research assistant**. Boston University and Pontificia Universidad Católica del Ecuador. Project: Ecological gradients and speciation.
- 2000. **Field research assistant**. Pontificia Universidad Católica del Ecuador. Project: Control of the common vampire bat populations in eastern Ecuador.
- 1999 – 2005. **Volunteer**. Mammalogy Section the Museo de Zoología. Pontificia Universidad Católica del Ecuador.

## SERVICE AND OUTREACH

### *Manuscript reviewing:*

- Acta Oecologica, American Naturalist, Conservation Biology, Ecology, Ecogaphy, Global Ecology and Biogeography, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Biogeography, Journal

of Ecology, Journal of Mammalogy, Journal of Vegetation Science, Nature Communications, Oecologia, Oikos, Paleobiology.

***Grant proposal reviewing:***

- Missouri Botanical Garden.

***Journal club:***

- Since 2011, co-organized *the Biodiversity Journal Club* at the Missouri Botanical Garden to discuss recently published manuscripts in biodiversity science. The journal club meets weekly and is attended by students and faculty from institution in the St. Louis area including Washington University, University of Missouri, St. Louis and St. Louis University. Website: <http://mobot-biodiversity-jc.weebly.com/>

***Professional memberships:***

- Ecological Society of America, International Society of Biogeography, Sociedad Ecuatoriana de Biología