

MANUEL A. LUJÁN PH.D.

California Academy of Sciences

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EDUCATION

Ph.D. Botany. Claremont Graduate University / Rancho Santa Ana Botanic Garden.

Advisor: Lucinda McDade Ph.D. August 2018

M.Sc. Neotropical Taxonomic Botany. Universidad de Los Andes, Venezuela. Advisor:

Ricarda Riina Ph.D. July 2012

B.S. Biology. Minor: Botany. Universidad de Los Andes, Venezuela. Advisor: Juan Gaviria

Ph.D. October 2009

PEER REVIEWED PUBLICATIONS

- Luján, M.** 2019. Playing the taxonomic cupid: matching pistillate and staminate individuals in *Clusia* (Clusiaceae). *Systematic Botany* 44: 548–559
- Luján, M., & J. Nascimento.** 2019. Comments on species nomenclature and taxonomy in *Clusia* section *Oedematopus* (Clusiaceae). *Journal of the Botanical Research Institute of Texas*. 13: 155–156
- Luján, M., J. Aranda, A. Virgo & K. Winter.** 2018. *Clusia guabalensis* (Clusiaceae) a new hemiepiphyte species with floral resins from the Atlantic wet forest in Panama. *Brittonia* 70: 412–417
- Luján, M., A. Idárraga & B. Hammel.** 2018. *Clusia hirsuta*, a new species of *Clusia* sect. *Retinostemon* and the first description of trichomes in the genus. *Novon* 26: 154–158
- Luján, M.** 2016. *Clusia scariosepala* (Maguire) Luján a distinct species of *Clusia* sect. *Anandroyne* endemic to the Venezuelan Andes. *Harvard Papers in Botany* 21: 137–140
- Luján, M., Y. León & R. Riina.** 2015. Synopsis of *Croton* (Euphorbiaceae) in the Andes of Mérida, Venezuela. *Caldasia* 37: 73–90
- Luján, M., N. Gutiérrez & J. Gaviria Rincón.** 2012. *Asystasia gangetica* (L.) T. Anders. subsp. *micrantha* (Nees) Ensermu (Acanthaceae), a new record for Venezuela. *Ernstia* 21: 131–137
- Luján, M., N. Gutiérrez; J. Gaviria Rincón & A. Aranguren.** 2011. Preliminary floristic study of Mérida city, state of Mérida, Venezuela. *Pittieria* 35: 35–61

BOOKS

- Tripp, E., & **M. Luján.** 2018. Venezuelan *Ruellia* (Acanthaceae): A Monograph. *Memoirs of the New York Botanical Garden* 119. New York, NY. NYBG Press

MANUSCRIPTS IN PREPARATION

- Luján, M.**, & K. Winter. Evolution of CAM: insights from genomics, leaf anatomy, biochemistry and climate. To be submitted to *New Phytologist*
- Luján, M.** Molecular systematics on *Clusia* (Clusiaceae) revisited. To be submitted to *Taxon*
- Marinho, L., **M. Luján**, P. Fiaschi & A. Amorim. *Tovomita nebulosa* (Clusiaceae), a new species from the Cerro de La Neblina, Venezuela. To be submitted to *Acta Amazonica*

CONFERENCE PRESENTATIONS

- Luján M.**, J. Liu & N. Nagalingum. July 2019. Diversity, structure and demographics in Australian *Cycas*. Botany 2019. Tucson, AZ
- Luján M.** & L. McDade. June 2018. Evolution of CAM in Neotropical *Clusia* (Clusiaceae) insights from leaf anatomy and biochemistry. Botany 2018. Rochester, MN
- McDade L., C. Kiel, N. Medina, **M. Luján**, Y. Zhuang, M. Schreiber, H. Stone, E. Berbeo, E. Tripp. June 2018. How many ways are there to make a purple flower? Botany 2018. Rochester, MN
- Luján M.** & L. McDade. June 2017. Playing the taxonomic cupid, matching incomplete species of *Clusia* (Clusiaceae). Botany 2017. Fort Worth, TX
- Luján M.**, Y. León & R. Riina. May 2013. Nuevos reportes del género *Croton* L. (Euphorbiaceae) para los Andes de Venezuela. XX Venezuelan Botany meeting. San Cristóbal, Venezuela
- Luján, M.**, G. Bustos, D. Castillo, H. Tajan, F. Santiago, M. Castro, L. Ojeda, N. Santos, & F. Ely. May 2011. Análisis florístico y fisionómico en un fragmento de bosque nublado - pajonal preparamero en Mérida, Venezuela. XIX Venezuelan Botany meeting. Maracay, Venezuela
- Luján M.**, N. Gutiérrez, J. Gavidia. May 2010. Análisis Florístico y Descripción de la Vegetación en el Ecosistema Urbano de la Ciudad de Mérida, Venezuela. I Venezuelan Biodiversity meeting. Maracay, Venezuela

SEMINARS

- Population genomics on rare Australian *Cycas*. Bay Area Population Genetics Symposium. University of California Berkeley. November 2019
- Systematics in plants with diverse sexual systems. San Francisco State University. Department of Biology. Colloquium in Ecology, Evolution, and Conservation. October 2019
- Australian *Cycas* population size and diversity assessment. San Diego Zoo Global. Plant Conservation Genetics Workshop. September 2019

Evolution of CAM in Neotropical *Clusia* (Clusiaceae). University of California Berkeley and Jepson Herbaria seminar series. November 2018

AWARDED GRANTS AND FELLOWSHIPS

National Science Foundation Doctoral Dissertation Improvement Grant 2017 (\$17,301)
Smithsonian Tropical Research Institute. Short Term Fellowship 2016 (\$2,000)
Missouri Botanical Garden Alwyn H. Gentry Fellowship 2016 (\$2,500)
Garden Club of America Award in Tropical Botany 2016 (\$5,500)
Claremont Graduate University. Graduate Student Council Travel Award 2015 (\$300)
Smithsonian Institution's Lyman B. & Ruth C. Smith Fellowship Award 2015 (\$2,500)
American Society of Plant Taxonomists Research Award 2015 (\$800)
Claremont Graduate University. Graduate Student Council Travel Award 2014 (\$300)
Rancho Santa Ana Botanic Garden research grants 2013–2018 (\$9,850)
Universidad de Los Andes. Graduate research grant 2012 (\$300)
Organization for Tropical Studies Fellowship. Tropical Plant Systematics 2009 (\$2,000)
Fundacite Mérida. International Travel Grant 2009 (\$500)
Universidad de Los Andes. Undergraduate Research Grant 2008 (\$200)

RESEARCH EXPERIENCE

John J. Rose postdoctoral fellow in Botany. California Academy of Sciences. Generated high-throughput DNA sequencing data for population genomic analyses on Australian-endemic *Cycas* species. July 2018 - present

Ph.D. research. Conducted phylogenetic reconstructions of species in the Neotropical genus *Clusia* using nuclear loci and high-throughput DNA sequencing data. Investigated evolution of CAM photosynthesis using comparative analyses of leaf anatomy, carbon isotopes and climatic data. September 2013 - July 2018

Research assistant. Rancho Santa Ana Botanic Garden. Planned field expeditions to collect plant material and study herbarium collections of species of *Ruellia*. Generated spectrometric data of floral pigments to analyze floral color evolution. September 2014 - January 2017

Research assistant. Rancho Santa Ana Botanic Garden. Assisted curatorship work at RSA herbarium, seeds and living collections including processing incoming material and databasing existing holdings. September - December 2013

M.Sc. research. Conducted field and herbarium work for a taxonomic revision of the genus *Croton* in the Andes of Venezuela. September 2010 - July 2012

Intern. The Euphorbiaceae Virtual Herbarium Project. Center for Plant Diversity, University of California Davis. Assisted curatorship work at DAV herbarium Euphorbiaceae collection. July 2012

Research assistant. Jardín Botánico de Mérida / Valrhona Foundation. Made floristic inventories in cocoa plantations and tropical rainforest relicts. September 2010 - July 2011

TEACHING EXPERIENCE

Undergraduate mentor. California Academy of Sciences. NSF-REU Summer Systematics Institute. Guided students in molecular and morphological data collection for phylogenetic analyses. June - August 2019

Teaching assistant. Rancho Santa Ana Botanic Garden. Provided training on plant anatomical methods to five graduate students, one undergraduate student and one external auditor in the Plant Anatomy and Morphology class. January - May 2017

Teaching assistant. Rancho Santa Ana Botanic Garden. Summer Research Institute. Provided training on field, molecular and anatomical methods for plant phylogenetic systematics to eight undergraduate students. July - August 2016

Adjunct instructor. Universidad Politécnica Territorial del Estado Mérida Kléber Ramírez. Prepared lectures on plant reproduction and general biology to undergraduate students. September 2011 - July 2013

Teaching assistant. Universidad de Los Andes. Designed and implemented laboratory activities for general biology course to undergraduate students. September 2005 - July 2006

SERVICE

Graduate student representative to Rancho Santa Ana Botanic Garden Editorial and Library Committee. 2016-2018

Graduate student chair. Rancho Santa Ana Botanic Garden. September 2015 - July 2016

Volunteer. 25th Graduate Student Symposium California Botanical Society. April 2015

Volunteer. Rancho Santa Ana Botanic Garden. Wild Flower Show (February 2015, April 2016); Garden with a View (May 2015); Fall Planting Festival (October 2014)

Student representative to the faculty council. Biology Department, Universidad de Los Andes, Venezuela. 2008-2009

OUTREACH

Letters to a Pre-Scientist. Participant as "pen pal" to correspond with middle school students from low income communities. 2019-2020

California Academy of Sciences. Designed lab activities and talks for high school students from communities traditionally underrepresented in STEM participating in the Careers in Science Intern program

California Academy of Sciences. Displayed plant specimens on Tropical Night Life (January 2019), Super Natural (October 2018, 2019) and Jurassic Night Life (March 2019) events

American Society of Plant Biologists. Informational interview for Student Space Network on Plantae.org. November 2018.

Bay Area Science Festival. Displayed plant exhibit. November 2018

San Francisco Conservatory of Flowers. Invited talk to volunteers. September 2018

Rancho Santa Ana Botanic Garden. Invited talk to volunteers. May 2017

HONORS

Best Contributed Paper. Tropical Biology Section. Botany 2017. Fort Worth, TX

Certificate of Recognition. Outstanding Biology Major 2007. ULA Mérida, Venezuela

COURSES AND WORKSHOPS

Neotropical Epiphytic Microlichens. Instituto Botánico de Venezuela. June 2010

Plant Systematics. Organization for Tropical Studies. Costa Rica. June - July 2009

REVIEWER FOR SCHOLARLY JOURNALS

Aliso, Brittonia, Journal of Pollination Ecology, Novon, Phytotaxa, Plant Systematics and Evolution, Urban Forestry & Urban Greening, Willdenowia

SOCIETIES AND AFFILIATIONS

American Society of Plant Taxonomists, Botanical Society of America, International Association for Plant Taxonomy, Sociedad Latinoamericana de Botánica, Sociedad Botánica de Venezuela

OTHER ACTIVITIES

Experience planning field expeditions, including working with national collaborators to obtain necessary permits to collect an export plant material in **Australia, Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Mexico, Panama, Peru, Venezuela** (bold indicates fieldtrip participation)

Wilderness first aid certification 2018–2020

Experience piloting unmanned aerial vehicles (drones) for plant population surveys