

CURRICULUM VITAE

María José Sanín

MSc, PhD in Science-Biology

Born in Medellín, Colombia on July 21, 1982.

Nationality: Colombian.

Current position: Assistant Professor at the School of Mathematical and Natural Sciences, New College Arizona State University, West Campus. Email: msanin2@asu.edu Phone: (480) 7914505

Former position (2015-2021): Professor, Facultad de Ciencias y Biotecnología, Universidad CES. Medellín, Colombia.

EDUCATION

PhD Science-Biology Instituto de Ciencias Naturales, Universidad Nacional de Colombia (2009-2013).

Dissertation (Laureate): Ecological and Evolutionary Studies in genus *Ceroxylon* (Arecaceae), 2013.

MSc in Science-Biology Instituto de Ciencias Naturales, Universidad Nacional de Colombia (2008-2009).

Thesis (Meritorious): Systematics of *Ceroxylon* Bonpl. (Arecaceae: Ceroxyloideae), 2009.

BSc Biology, Universidad de Antioquia, 2000-2005.

RESEARCH

Research group Biología CES-EIA, Colciencias, Universidad CES (2012-present), director of group since 2016.

Research Group Wild Neotropical Palms, Colciencias, Universidad Nacional de Colombia (2007-present).

Biodiversity Unit, Corporación para Investigaciones Biológicas -CIB, Colombia 2003-2006.

TEACHING

MNS, New College, ASU: Fundamentals of Environmental Science 2021 Fall semester, Cellular Biology Laboratory 2021 Fall semester, Individualized Instruction 2021 Fall semester.

Universidad CES, Medellín, Colombia: Conservation Biology (module) 2014-2017, Population Ecology (module) 2014-2016, Plant evolution (module) 2015-2018, Introduction to Phylogenetics 2013-present, Biological interactions (module) 2016, Topics in Conservation Biology (module) (2016-present), Topics in Biodiversity and Conservation (2018 to present).

Universidad Nacional de Colombia, Bogotá, Colombia: Plant Biology, Working Scholar 2009, Palm Systematics and Ecology, Working scholar 2009. Vascular Plant Morphology, Working Scholar 2008.

Universidad Jorge Tadeo Lozano de Bogotá, Colombia: Biogeography 2007-2008, Botany 2008.

Thesis supervision: 5 pregraduate and 5 Masters theses, and other currently underway.

FIELD WORK

Botanical surveys, ethnobotanical interviews, mountain and lowland forest plots for community and population ecology, and collection of material for genetic studies in the following countries and years: Colombia 2003-2013; 2015-present; Peru 2007, 2009, 2010, 2012, 2013; Ecuador 2004, 2010, 2012, 2013; Venezuela 2012; Bolivia 2009, 2013.

GRANTS: Franklinia Conservation Grants (2020-2022), Universidad Nacional de Colombia, Dirección de Investigación (2020-2022) , Minciencias Posdoctoral Research (2019-2020), Colciencias Geociencias 0710 (2015-2019), Gestión de Conocimiento e Investigación Universidad CES Mediana Cuantía (2014-2016 and 2015-

2017), Mínima Cuantía (2016 and 2021), Colciencias PhD National Grant (2009-2013), FP7-PALMS PhD Research Grant (2009-2013), Universidad Nacional de Colombia Dirección de Investigación (2008-2009 and 2012-2013), International Palm Society Research Grant IPS (2012-2013).

SCIENCE OUTREACH AND COMMUNICATION

I co-authored the initial proposal, conducted fieldwork and appear in the production of a documentary aimed at building awareness of the biological wealth and need for protection of the Tribuga Gulf in the Colombian Pacific. For information on the project: www.expediciontribuga.com.

News articles: Front page New York Times: <https://www.nytimes.com/2019/11/05/science/colombia-wax-palms-biodiversity.html>

Public outreach talks: *Science Thursdays*, Medellín Botanical Garden 2019, 2020; Radio: *Coloquio Ambiental* Universidad de Antioquia 2020.

SELECTED TALKS

PALMS Symposium Leticia 2012

Eunops 2013

World Palm Symposium Quindío 2015

Eunops 2017

International Biogeography Meeting Quito 2019

PUBLICATIONS (ARTICLES)

In review

SANÍN, M.J., MEJÍA-FRANCO F.G., PARIS, M., VALENCIA-MONTOYA, W.A., SALAMIN, N., KESSLER, M. OLIVARES, I.L., JARAMILLO, J.S. & CARDONA, A. Geogenomics of montane palms of the *Geonoma undata* complex reveals the effect of trans cordillera faults on topographic growth of the Colombian Andes during the Plio- Pleistocene boundary. Submitted to the Journal of Biogeography.

CORREA-AGUDELO, V., **SANÍN, M.J.**, D.J. TUBERQUIA. Análisis de la vegetación en la franja transicional bosque altoandino-páramo, en el páramo de Belmira-Santa Inés, Antioquia. Submitted to Caldasia.

SANÍN, M.J., BORCHSENIUS, F., PARIS, M., CARVALHO-MADRIGAL, S., GÓMEZ HOYOS, A.C., CARDONA, A., ARCILA MARÍN, N., OSPINA, Y., HOYOS-GÓMEZ, S.E., MANRIQUE, H.F., BERNAL, R. Evolution of *Aiphanes* (Arecaceae) along mountain gradients in the Northern Andes. Submitted to Annals of Botany

SANÍN M.J., CARDONA, A. (...). Vulcanism facilitates plant dispersal across the Northern Andes. Submitted to Global and Planetary Change

Published

ALEGRÍA-ORTEGA A., **SANÍN M.J.**, QUAN-YOUNG L.I., LONDOÑO-MESA M.H. 2021. Genetic structure of *Orbicella faveolata* populations reveal high connectivity among a Marine Protected Area and Varadero reef in the Colombian Caribbean. Aquatic Conservation, 1-13.

CARREÑO-BARRERA, J., NÚÑEZ-AVELLANEDA, L.A., **SANÍN, M.J.** & MAIA, A.C.D. 2020. Orchestrated flowering and interspecific facilitation: key factors in the maintenance of the main pollinator of coexisting threatened species of andean wax palms (*Ceroxylon* spp.). Annals of the Missouri Botanical Garden 105 (3): 281-299.

CHACÓN-VARGAS, K., GARCÍA-MERCHÁN, V.H., & **M.J. SANÍN**. 2019. From keystone species to conservation: conservation genetics of wax palm *Ceroxylon quindiuense* in the largest wild populations of Colombia and selected neighboring ex situ plant collections. Biodiversity and Conservation 1-20 (<https://doi.org/10.1007/s10531-019-01882-w>).

BERNAL, R., BORCHSENIUS, F., HOYOS-GÓMEZ, S.E., MANRIQUE, H.F., & **M.J. SANÍN**. 2019. A revision of the *Aiphanes parvifolia* complex (Arecaceae). Phytotaxa 411 (4): 275-292.

BERNAL, R., BERNAL, R., CASTAÑO, F., & **M.J. SANÍN**. 2019. A new, overlooked species of *Aiphanes* (Arecaceae) from Santander Colombia. 405 (2). 101-105.

LOISEAU, O., (...) **M.J. SANÍN**, (...), M. KESSLER & N. SALAMIN. Targeted capture of hundreds of nuclear genes unravels phylogenetic relationships of the diverse Neotropical palm tribe Geonomateae. *Frontiers in Plant Science*, section Plant Systematics and Evolution. Manuscript ID: 448082.

BERNAL, R., B. MARTÍNEZ & **M.J. SANÍN**. 2018. The world's tallest palms. *Palms* 62: 5-16.

MARTÍNEZ, B., **M.J. SANÍN**, L.S. CASTILLO, R. LÓPEZ & R. BERNAL. 2018. Sex change in the dioecious palm *Ceroxylon quindiuense* (Arecaceae). *Ecology*, DOI 10.1002/ecy.2171.

ARISTIZÁBAL, A., TUBERQUIA, D. & **M.J. SANÍN**. 2017. Conservation genetics of two highly-endangered and poorly-known species of *Zamia* (Zamiaceae: Cycadales) in Colombia. *Journal of Heredity*. DOI: 10.1093/jhered/esx110

SANÍN, M.J., ZAPATA, J.P., PINTAUD, J.C., GALEANO, G., BOHÓRQUEZ, A., TOHME, J. & M.M. HANSEN. 2017. Up and down the blind alley: population divergence with scant gene flow in an endangered tropical lineage of Andean palms (*Ceroxylon quindiuense* clade: Ceroxyloideae). *Journal of Heredity*, 108(3): 288-298.

SANÍN, M.J., KISSLING, W.D., BACON, C.D., BORCHSENIUS, F., GALEANO, G., SVENNING, J.C., OLIVERA, J., RAMÍREZ, R., TRÉNEL, P. & J.C. PINTAUD. 2016. The Neogene rise of the Northern Andes triggered species diversification through geographic colonization and climatic niche differentiation. *Botanical Journal of the Linnean Society*, 182(2): 303-317.

SANÍN, M.J., Anhelme, F., Pintaud, J.C., Galeano, G. & R. Bernal. 2013. Juvenile resilience and adult longevity explain residual populations of the Andean wax palm *Ceroxylon quindiuense* after deforestation. *PLoS ONE* 8(10): e74139. doi:10.1371/journal.pone.0074139.

BERNAL, R. & **M.J. SANÍN**. 2013. The palm stands of *Ceroxylon quindiuense* (Arecaceae) at the Cocora Valley, Quindío: conservation perspectives of a scenic icon of Colombia. *Colombia Forestal*, 16(1): 67-79.

SANÍN, M.J. & G. GALEANO. 2011. A revision of the Andean Wax Palms, *Ceroxylon*, *Phytotaxa* 34:1-64.

GALEANO, G., **M.J. SANÍN**, J.C. PINTAUD & B. MILLÁN. 2008. Novelties in the genus *Ceroxylon* (Arecaceae) from Peru. *Revista Peruana de Botánica*, 15(1): 65-72.

PUBLICATIONS (BOOKS)

BERNAL, R. GALEANO, G. & **M.J. SANÍN**. 2015. Plan de conservación, manejo y uso sostenible de la palma de cera del Quindío (*Ceroxylon quindiuense*), Árbol Nacional de Colombia. Ministerio de Ambiente y Desarrollo Sostenible; Universidad Nacional de Colombia, 80 p.

PUBLICATIONS (BOOK CHAPTERS)

SANÍN, M.J., BOLÍVAR, L.M. & D.J. TUBERQUIA. 2017. Conservación de palmas de los bosques de niebla en Antioquia. Pp. 159-164. En: Quintero Vallejo, E., Benavides, A.M., Moreno, N., González-Caro, S. (Eds). *Bosques Andinos, estado actual y retos para su conservación en Antioquia*. Fundación Jardín Botánico de Medellín Joaquín Antonio Uribe – Programa Bosques Andinos (COSUDE). 1 Ed. – Medellín, 2018. 542 págs.

PINTAUD, J.C., MONTÚFAR, R., ANTHELME, F. & **M.J. SANÍN**. 2015. Patrones genéticos y ecológicos de las palmas: La influencia humana, en Balslev, H., Macía, M. J., & H. Navarrete (eds.) *Cosecha de Palmas en el noreste de Suramérica: bases científicas para su manejo y conservación*. Pontificia Universidad Católica de Ecuador, 297 pp.

SANÍN, M.J. 2013. La palma de cera de la zona cafetera (*Ceroxylon alpinum*). Pp. 154-158. En: Bernal R & G Galeano (Eds). *Cosechar sin Destruir – Aprovechamiento sostenible de palmas colombianas*. Facultad de Ciencias – Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá. 244 pp.

SANÍN, M.J. 2013. La palma de cera del Quindío (*Ceroxylon quindiuense*). Pp. 159-164. En: Bernal R & G Galeano (Eds). *Cosechar sin Destruir – Aprovechamiento sostenible de palmas colombianas*. Facultad de Ciencias – Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá. 244 pp.