

**Ph.D. Juan Carlos Penagos Zuluaga**

Postdoctoral Associate  
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**Employment**

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February 2020 - present	Cullman Post-doctoral Associate. New York Botanical Garden and School of the Environment, Yale University
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**Education**

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2020	Ph.D. School of Forestry and Environmental Studies, Yale University
2010	M.Sc. Evolution, Ecology and Systematics. University of Missouri-St. Louis.
2004	B.S. Forestry Engineering, Concentration in Environmental and forest conservation. National University of Colombia, Medellin.

**Teaching Experience**

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Spring 2019, 2018, 2016, 2015	<i>Teaching Assistant, Graduate School, Yale University.</i> Tropical Field Ecology, for Master and PhD Students at the School of Forestry and Environmental Science.
Fall 2015	<i>Teaching Assistant, Graduate School, Yale University.</i> Pests, Pathogens and Parasites, for Master and PhD Students at the School of Forestry and Environmental Science.
Fall 2013	<i>Teaching Assistant, Center for Life Science Education, The Ohio State University.</i> Biology 1114 (Form, Function and Ecology), for students majoring in natural science.

**Professional Experience**

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January 2013 to July 2013	<i>Research assistant Department of Evolution, Ecology and Organismal Diversity (EEOB), The Ohio State University</i>
August 2012 to December 2012	<i>Research assistant in the Herbarium (OS) at The Ohio State University. U.S.</i> Currently in charge for the digitalization of Lichen and Bryophyte collections at the (OS) Herbarium for the Project Lichens, Bryophytes and Climate Change (Lbcc)
March 2011 to July 2012	<i>Assistant editorial for the Catalogue of vascular plants of Bolivia, Missouri Botanical Garden, Missouri U.S.</i> Revision of the author's contributions for each family included in the catalogue confirming the congruence of species information received with the

current taxonomical nomenclature and current species distribution.

- Jan 2011to  
May 2012      *Research Assistant and Lab Technician* for Dr. Amy Zanne, University of Missouri, St. Louis. U.S  
Developed anatomical work required for different trait evolution research studies in Panama, Australia and Missouri conducted by Dr. Amy Zanne and her students.  
Managed the lab facilities and equipment.
- 2010- 2008      *Research Assistant, Center for Conservation and Sustainable Development (CCSD)* of the Missouri Botanical Garden (MBG). U.S.  
Involved in Management of the laboratory of the CCSD; field assistant in conservation projects of rare and endangered species in Missouri, Tennessee, and Arkansas; managed seed bank of CCSD.
- 2007-2004.      *Director of Measurement Team, Silvano Ltda. Colombia.*  
Involved in collection and identification of botanical samples in inventories of natural forests; measured temporal and permanent plots to evaluate growth and production in timberlands throughout Colombia; managed an electronic database of forestry inventories in timberlands of Colombia.
- 2004              *Botanical Assistant, School of Physics, National University of Colombia, Colombia.*  
Involved in the identification of botanical material of Lauraceae for a study about alternative uses for vegetal extracts.

### Professional societies

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2016-2021      *Botanical Society of America*

### Publications

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**Penagos Zuluaga, J.C.**, van der Werff, H. Park, B., Deren A. R., Comita, L.S., Queenborough, S.A, Donoghue, M. J. (in press). Restriction-site-associated DNA sequencing resolves the phylogenetic relationships in the *Ocotea* complex (Lauraceae): Phylogenetic classification and character evolution. American journal of Botany.

**Penagos Zuluaga, J.C.**, Queenborough, S.A., Comita L.S. 2020. Flowering sex ratios and costs of reproduction in gynodioecious *Ocotea oblonga* (Lauraceae). *Biological Journal of the Linnean Society* 131: 344-355

**Penagos Zuluaga, J.C.**, van der Werff, H. Park, B., Deren A. R., Comita, L.S., Queenborough, S.A, Donoghue, M. J. (In review). Restriction-site-associated DNA sequencing resolves the phylogenetic relationships in the *Ocotea* complex (Lauraceae): Phylogenetic classification and character evolution. American journal of Botany

**Penagos, Zuluaga, J.C. & Madriñán, S. 2015.** Lauraceae. in Bernal, R., S.R. Gradstein & M. Celis (eds.). 2015. Catálogo de plantas y líquenes de Colombia. Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá. <http://catalogoplantasdecolombia.unal.edu.co/en/>

**Penagos Zuluaga, J.C. 2014.** Koeberliniaceae Engl. En Jørgensen, P. M., M. H. Nee & S. G. Beck. 2014. Cat. Pl. Vasc. Bolivia, Monogr. Syst. Bot. Missouri Bot. Gard. 127(1–2): i–viii, 1–1744. Missouri Botanical Garden Press, St. Louis. Jørgensen, P. M., M. H. Nee & S. G. Beck. (eds.).

Park, B., Sinnott-Armstrong, M., Schlutius, C., **Penagos Zuluaga, J.C.**, Spriggs, E., Simpson, R.G, Benavides, E., Landis, M., Sweeney, P.W., Eaton, D.A.R., Donoghue, M.J., Eaton, D. A. R. **2019**. Sterile marginal flowers increase visitation and fruit set in the hobblebush (*Viburnum lantanoides*, Adoxaceae) at multiple spatial scales, *Annals of Botany*, Volume 123, Issue 2 Pages 381–390,

Krishnadas, M., Beckman, N., **Peñ(n)agos Zuluaga, J. C.**, Zhu, Y., Whitacre, J., Wenzel, J., Queenborough, S., Comita, L. **2018**. Environment and past land-use together predict functional diversity in a temperate forest. *Ecological Applications*. 28. 10.1002/eap.1802.

Oberle, B., Ogle, K., **Penagos Zuluaga, J. C.**, Sweeney, J., & Zanne, A. **2016**. A Bayesian model for xylem vessel length accommodates subsampling and reveals skewed distributions in species that dominate seasonal habitats. *Journal of Plant Hydraulics*, 3, e003.

Albrecht, M.A., **Penagos Zuluaga, J.C.** **2012**. Seed germination ecology of three imperiled plants of rock outcrops in the southeastern United States. *Torrey Botanical Society* 139(1): 86-95.

### Fellowships and Grants

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| 2018      | <b>Garden Club of America Awards in Tropical Botany.</b> For Evolution of breeding systems in early angiosperms (Lauraceae):the Gynodioecy pathway tropical trees. (\$5000)   |
| 2017      | <b>TRI Fellowship</b> , Tropical Research Institute, Yale University. For Ecology of gynodioecism in <i>Ocotea oblonga</i> (Lauraceae) \$5000   |
| 2016      | <b>Dissertation Grant</b> , The Yale Institute for Biospheric Studies – YIBS. For gene flow in a gynodioecy population (Lauraceae) \$3000   |
| 2015      | <b>TRI Fellowship</b> , Tropical Research Institute, Yale University. For Ecology of gynodioecism in <i>Ocotea oblonga</i> (Lauraceae) \$5000   |
| 2015      | <b>Pilot Grant</b> , The Yale Institute for Biospheric Studies – YIBS. For Pollen limitation and gene flow in a gynodioecy population (Lauraceae) \$2700  |
| 2014      | <b>Doctorate funds</b> , The Yale Institute for Biospheric Studies – YIBS. Ecology and evolution of the gynodioecious breeding system in early diverging flowering plants \$4900  |
| 2009      | <b>Whitney R. Harris World Ecology Center</b> , Jane and Stanley Birge Scholarship. For Dissertation Research Evaluating the relationship of <i>Aiouea</i> with <i>Cinnamomum</i> and <i>Ocotea</i> using cuticular characters. \$1500 US |
| 2010-2008 | Whitney R. Harris World Ecology Center, Research Scholarship. Provides a two year full scholarship for Master of Science program in Biology.  |
| 2006      | Alwyn Gentry Fellowship, awarded by the Missouri Botanical Garden. Provides three months of stipend in MBG for the project. A virtual library of the Lauraceae of Colombia.   |

### Presentations

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**Penagos Zuluaga, J.C.** Evolución y ecología de sistemas reproductivos en especies de Lauraceae, I Simposio Colombiano en Sistemática y Evolución de Plantas. Universidad de Antioquia, – Colombia, Marzo 2017.

**Penagos Zuluaga, J.C.** Ecology and Evolution of Lauraceae. Department Seminar. Universidad Autonoma de Mexico, Ciudad de Mexico – Mexico, December 2015.

**Penagos Zuluaga, J.C.**, van der Werff, H. Evaluation of the relationship of *Aiouea* with *Cinnamomum*, *Ocotea* and *Mocinnodaphne* (Lauraceae) using epidermal leaf characters. **Oral Presentation:** Botany Meeting, Cali – Colombia, August 2011.

**Poster presentation:** Botany Meeting, July 2011, St. Louis-Missouri, US.