

# Bolívar Aponte Rolón

PH.D. CANDIDATE

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*I am a curiosity driven community ecologist focused on plant-fungal symbiosis and genomics.*

## 🎓 Education

### Tulane University (TU), Department of Ecology and Biology

New Orleans, LA

PH. D. CANDIDATE

2018 - Present

- Committee members: Sunshine Van Bael, Ph.D. (advisor; dissertation chair), Kathleen Ferris, Ph.D. (co-advisor), Keith Clay, Ph.D., & P. Camilo Zalamea, Ph.D.

### University of Michigan (UM), School for the Environment and Sustainability

Ann Arbor, MI

MASTER OF SCIENCE, NATURAL RESOURCES MANAGEMENT: CONSERVATION ECOLOGY

2018

### University of Puerto Rico (UPR)

San Juan, Puerto Rico

BACHELOR OF ARTS IN POLITICAL SCIENCE,

2014

- Area of concentration: Political Theory, Magna Cum Laude

## 📄 Peer-Reviewed Publications

**Aponte Rolón, B., & Perfecto, I. (2023).** Between Two Trees: Environmental Effects of *Inga micheliana* and *Alchornea latifolia* on Leaf Litter Ants in a Coffee Agroecosystem. *Ecosphere*, 14(2), e4442. <https://doi.org/10.1002/ecs2.4442>

Schmitt, L., **Aponte Rolón, B.**, & Perfecto, I. (2020). Evaluating Community Effects of a Keystone Ant, *Azteca sericeasur*, on *Inga micheliana* Leaf Litter Decomposition in a Shaded Coffee Agro-Ecosystem. *Biotropica*, 52(6), 1253–1261. <https://doi.org/10.1111/btp.12833>

## 📄 Other Publications

**Aponte Rolón, B. (2023).** High-Molecular-Weight SPRI-aided DNA extraction from *Mimulus* (Phrymaceae) leaf tissue. <https://doi.org/dx.doi.org/10.17504/protocols.io.bp216xn8rlqe/v2>

## 🔬 Research Experience

### Ecology and Evolutionary Biology

Tulane University, New Orleans, LA

DOCTORAL RESEARCH

August 2018 - Present

- “Leaf Functional Traits Influence on Foliar Endophytic Fungi and Their Effects on Plant’s Response to Herbivory and Pathogenicity In Tropical Trees” (in progress)
- “Foliar Endophytic Fungi in Yellow Monkeyflowers Along an Elevational Gradient in the Sierra Nevada, CA”
- “Leaf Functional Trait Plasticity and Foliar Endophytic Fungi in Yellow Monkeyflowers: Linking Traits and Symbionts to Genes”
- PI, Sunshine Van Bael Ph.D. & Kathleen Ferris, Ph.D.

### School for the Environment and Sustainability

University of Michigan, Ann Arbor, MI

MASTER’S THESIS

January 2016 - April 2018

- “Impacts of quality of leaf-litter on ant assemblages in shade-grown coffee in the Soconusco region in Chiapas, Mexico”
- PI, Ivette Perfecto, Ph. D.

### School for the Environment and Sustainability

University of Michigan, Ann Arbor, MI

GRADUATE STUDENT RESEARCH ASSISTANT

January 2016 - May 2016

- “Impacts of quality of leaf-litter on ant assemblages in shade-grown coffee in the Soconusco region in Chiapas, Mexico”
- PI, Ivette Perfecto, Ph. D.

### Department of Chemistry

University of Puerto Rico, San Juan, PR

UNDERGRADUATE RESEARCH ASSISTANT

January 2014 - May 2014

- Conducted GC-MS and QuEChERS methods in development of an analytical methodology for the detection of Hypoglycin A in Ackee Fruit (*Blighia sapida*).
- Worked in the characterization of Ackee Fruit and applied the QuEChERS method to analyze analyte properties
- PI, Liz Díaz, Ph. D.

## Department of Chemistry

UNDERGRADUATE RESEARCH ASSISTANT

- Characterized and assessed marine algae as sources for biofuels, plastics, electrodes and bioindicators.
- Conducted a simultaneous assay of pigments, carbohydrates, proteins and lipids of *Tricleocarpa cylindrica*.
- PI, Liz Díaz, Ph. D.

## Center for Landscape Conservation, Inc.

UNDERGRADUATE RESEARCH ASSISTANT

- “Rapid Ethnographic Assessment in El Yunque: Understanding local visitors’ willingness and capacity to collaborate in the revision of EYNF’s Management Plan”
- PI, Federico Cintrón-Moscoso, Ph. D.

University of Puerto Rico, San Juan, PR

June 2013 - July 2013

San Juan, Puerto Rico

July 2013 - July 2013

## Grants and Fellowships

### Student Research Grant

DEPARTMENT OF ECOLOGY AND EVOLUTIONARY BIOLOGY

Tulane University, New Orleans, LA.

February 2020 - 2021, 2022

### OGPS Fellowship

OFFICE OF GRADUATE AND POST-DOCTORAL STUDIES

Tulane University, New Orleans, LA.

November 2021 - May 2022

### Rackham International Research Award

University of Michigan, Ann Arbor, MI.

RACKHAM GRADUATE SCHOOL

April - 2017

### Rackham Conference Travel Grant

University of Michigan, Ann Arbor, MI.

RACKHAM GRADUATE SCHOOL

April - 2017

### Rackham Master Fellowship

University of Michigan, Ann Arbor, MI.

RACKHAM GRADUATE SCHOOL

April - 2015

## Awards & Honors

### The Connolly Alexander Institute for Data Science

SUMMER GRADUATE AWARD

Tulane University, New Orleans, LA

June 2023

### Graduate Studies Student Association

TRAVEL AWARD

Tulane University, New Orleans, LA

May 2023

### School of Science and Engineering

DEAN’S TRAVEL AWARD

Tulane University, New Orleans, LA

May 2023

### Graduate Studies Student Association

TRAVEL AWARD

Tulane University, New Orleans, LA

May 2022

### School of Science and Engineering

DEAN’S TRAVEL AWARD

Tulane University, New Orleans, LA

April 2022

### School for the Environment and Sustainability

University of Michigan, Ann Arbor, MI

JEFFREY LUND FOREST ECOLOGY AWARD

April 2017

- Annual award for academic excellence, research capability and professional promise.

## Conference Presentations and Posters

**Aponte Rolón, B.** (2023 June). *Oral Presentation*: “Foliar fungal symbionts in sympatric yellow monkeyflowers along an elevational gradient”. Evolution 2023, Albuquerque, NM.

**Aponte Rolón, B.** (2023 March). *Poster*: “The Influence of host genotype and leaf trait plasticity on foliar fungal endophytes of yellow monkeyflowers in Yosemite National Park, CA”. Collaborators: Kathleen Ferris & Sunshine Van Bael. Tulane Research, Innovation, and Creativity Summit (TRICS), Jung Hotel Grand Hall, New Orleans, LA.

**Aponte Rolón, B.** (2022 July). *Oral Presentation*: “Interactions between functional leaf traits and foliar endophytes in the defense against natural enemies of tropical trees” (ID: 358). The 58th Meeting of the Association for Tropical Biology and Conservation (ATBC 2022), Cartagena de Indias, Colombia.

**Aponte Rolón, B.** (2022 May). *Poster*: “The Influence of host genotype and leaf trait plasticity on foliar fungal endophytes of yellow monkeyflowers in Yosemite National Park, CA”. Collaborators: Kathleen Ferris & Sunshine Van Bael. Yosemite Symbiosis Workshop. Wawona, CA, USA.

**Aponte Rolón, B.** (2020 July). *Graphical Abstract*: “Investigating trade-offs and complementarity between functional leaf traits and foliar endophytic fungi in the defense against plant enemies of tropical woody plants”. Collaborators: A. Elizabeth Arnold, and Sunshine Van Bael. The Mycological Society of America’s First Virtual Meeting, MSA 2020: Mycology from the Cloud (virtual).

**Aponte Rolón, B.** (2019 May). *Poster*: “Leaf and Root Endophytes of Mangroves in Southwestern Florida Everglades”. Collaborators: Mareli Sánchez Juliá, Edward Castañeda, John Kominoski, & Sunshine Van Bael. Florida Coastal Everglades LTER All Scientists Meeting. Fairchild Tropical Botanic Garden, Miami, Florida.

**Aponte Rolón, B.** (2017 October). *Poster*: “Quality of leaf-litter and ant assemblages in shade-grown coffee in Chiapas, Mexico”, Collaborator: Ivette Perfecto. Student Conference on Conservation Science-New York (SCCS-NY), American Museum of Natural History in New York City.

**Aponte Rolón, B.** (2017 July). *Poster*: “Impacts of quality of leaf-litter on ant assemblages in shade-grown coffee in Chiapas, Mexico”, Collaborator: Ivette Perfecto. 54th Annual Meeting of the Association for Tropical Biology and Conservation, “Ecological and Social Dimensions of Tropical Biodiversity Conservation”, Merida, Yucatan, Mexico.

**Aponte Rolón, B.** (2014 May). *Poster*: “El efecto del Curcumin en la señalización celular de Artritis Psoriática” [The Effect of Curcumin on cell signaling of Psoriatic Arthritis]. (With Carrero Feliciano, Heysel M.; Hall Laureano, Stephanie; Montes González, Ingrid, PhD.) Annual poster presentation of the American Chemical Society, Puerto Rico Chapter, University of Puerto Rico, Río Piedras Campus, San Juan, Puerto Rico.

## Seminars & Workshops

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**Delegate** (Aug. Sept. 2014): “*Encuentro latinoamericano y caribeño: asamblea intermedia*”. [Intermediate Assembly of the *Consejo de Educación Popular de América Latina y el Caribe-CEAAL*]. Quito, Ecuador.

**Delegate** (October 2013): “*Rumbo a la asamblea intermedia*”. Sponsored by the *Consejo de Educación Popular de América Latina y el Caribe-CEAAL*. Santo Domingo, Dominican Republic.

**Organizer** (August 2013): “*Primer Encuentro Nacional de Educadores(as) Populares de Puerto Rico*”. Sponsored by *Consejo de Educación Popular de América Latina y el Caribe-CEAAL*, Pontifical Catholic University of Puerto Rico, Ponce, Puerto Rico.

**Workshop Developer** (August 2013): “*Educación Popular y Liberación Nacional*” [Workshop on Popular Education and National Liberation] Sponsored by *La Nueva Escuela* at *Primer Encuentro Nacional de Educadores(as) Populares de Puerto Rico*. Pontifical Catholic University of Puerto Rico, Ponce, Puerto Rico.

**Facilitator & organizer** (March 2012): “*Sexto Campamento de Jóvenes: Educando para una nueva Patria*” [Summit on Popular Education Critical Ideologies, Racism & Xenophobia]. *La Nueva Escuela*, Peñuelas, Puerto Rico.

**Organizer** (March 2012): “*Debates y perspectivas en la construcción de una reforma universitaria inclusiva*”. Sponsored by Honors Program Student Association (AEPREH), University of Puerto Rico, Río Piedras Campus. Social Sciences Faculty, University of Puerto Rico, Río Piedras Campus, San Juan Puerto Rico.

**Round table** (July 2012): “Puerto Rico: a brief historical account”. Second International Summit “*Entre las Crisis y Otros Mundos Posibles*” of the Transnational Network of Other Knowledges. Sponsored by *Centro de Investigaciones y Estudios Superiores en Antropología Social* (CIESAS), CIDECI Las Casas/ UNITIERRA-Chiapas, San Cristóbal de las Casas, Chiapas, México.

**Workshop Developer** (September 2010): “*Taller de Educación Popular*” [Workshop on Popular Education]. *La Nueva Escuela* at The University of Puerto Rico, Río Piedras Campus, San Juan, Puerto Rico.

**Workshop Developer** (May 2010): “*Taller de Educación Popular y el Movimiento Estudiantil*” [Workshop on Popular Education and the Student Movement]. *La Nueva Escuela* at The University of Puerto Rico, Río Piedras Campus, San Juan, Puerto Rico.

## Teaching Experience

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### **Tulane University: 2018-Present**

Instructor

- October 2023 | *Introduction to Version Control with Git and GitHub*. Developed by **B. Aponte Rolón** for the Howard-Tilton Memorial Library, Tulane University, New Orleans LA.
- October 2023 | *Introduction to Data Visualization in R*. Developed by **B. Aponte Rolón** for the Howard-Tilton Memorial Library, Tulane University, New Orleans LA.

- October 2023 | *Introduction to R, Part 1*. Developed by Mike Ellis for the Howard-Tilton Memorial Library, Tulane University, New Orleans LA.

#### Teaching Assistant

- Summer 2023 | **Tropical Field Biology - EBIO 3780**. Dr. Sunshine Van Bael, Department of Ecology and Evolutionary Biology.
- Spring 2023 | **Natural History of Louisiana - EBIO 2330**. Dr. Donata Henry, Department of Ecology and Evolutionary Biology.
- Spring 2023 | **Theory and Methods in Ecology and Evolutionary Biology - EBIO 2020**. Dr. Donata Henry, Department of Ecology and Evolutionary Biology.
- Fall 2022 | **Entomology - EBIO 4430/4431**. Dr. Jelagat Cheruiyot, Department of Ecology and Evolutionary Biology.
- Spring 2022 | **Insects and Human Interactions - EBIO 2210**. Dr. Jelagat Cheruiyot, Department of Ecology and Evolutionary Biology.
- Fall 2021 | **Entomology - EBIO 4430/4431**. Dr. Jelagat Cheruiyot, Department of Ecology and Evolutionary Biology.
- Spring 2021 | **Plants and Human Affairs - EBIO 3180/3185**. Dr. Keith Clay, Department of Ecology and Evolutionary Biology.
- Fall 2020 | **Entomology - EBIO 4430/4431**. Dr. Jelagat Cheruiyot, Department of Ecology and Evolutionary Biology.
- Spring 2020 | **Plant Biology and Adaptation - EBIO 3590/3591**. Dr. Jelagat Cheruiyot, Department of Ecology and Evolutionary Biology.
- Fall 2019 | **Plants and Human Affairs - EBIO 3180/3185**. Dr. Jelagat Cheruiyot, Department of Ecology and Evolutionary Biology.
- Spring 2019 | **Entomology - EBIO 4430/4431**. Dr. Jelagat Cheruiyot, Department of Ecology and Evolutionary Biology.
- Fall 2018 | **Diversity of Life - EBIO 1010**. Dr. Donata Henry, Department of Ecology and Evolutionary Biology.

#### Guest Lectures

- Summer 2023 | **Tropical Field Biology - EBIO 3780**, Dr. Sunshine Van Bael, Department of Ecology and Evolutionary Biology.
- Fall 2021 | **Tropical Biology - EBIO 2110**, Dr. Renata Durães Ribeiro, Department of Ecology and Evolutionary Biology.
- Fall 2021 | **Entomology - EBIO 4430/4431**. Dr. Jelagat Cheruiyot, Department of Ecology and Evolutionary Biology.
- Fall 2019 | **Plants and Human Affairs - EBIO 3180/3185**. Dr. Jelagat Cheruiyot, Department of Ecology and Evolutionary Biology.

#### University of Michigan: 2016 - 2017

- Fall 2017 | **NRE 509: Ecology: Concepts and Applications**. Dr. Sheila K. Schueller, School for the Environment and Sustainability.
- Fall 2016 | **ENVIRON 270: Our Common Future**. Dr. Ivette Perfecto, Program in The Environment, College of Literature, Science and the Arts.

## Outreach

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FIRST

FIRST ROBOTICS COMPETITION

- Volunteer in robotics competition for high school students

Bayou Regional

March 2022

Yosemite Conservancy

NATURE TALK

- Led public on nature walk and art activity to examine functional significance of leaf shapes.

University of Michigan

EcoDIA

- Developed and executed a science communication day for the school.

Yosemite National Park

May 2022

Finca Irlanda, Soconusco, Chiapas, Mexico

June 2017

🏢 Offices and Other Experience

Tulanians Who Enjoy R Coding (TWERC)

COORDINATOR

January 2023 - Present

AmeriCorps STATE

URBAN AGRICULTURE INSTRUCTOR

Consejo de Educación Popular de América Latina y el Caribe (CEAAL)

LIASON

December 2014 - June 2015

November 2013 - June 2015

General Student Council Directive

ALTERNATE REPRESENTATIVE

Honors Program Student Association (AEPREH)

PRESIDENT

Honors Program Student Association (AEPREH)

VICE-PRESIDENT

Social Sciences College Student Action Committee

COORDINATOR

La Nueva Escuela

COLLABORATOR

August 2011 - May 2012

August 2011 - May 2012

August 2010 - May 2011

August 2010 - May 2011

September 2010 - May 2015

👥 Memberships

ATBC | Association for Tropical Biology and Conservation

ESA | Ecological Society of America

SSE | Society for the Study of Evolution

🧠 Skills

🗣️ Languages

Skill	Spanish	English	Portuguese
Reading	Native	Advanced	Intermediate
Writing	Native	Advanced	Intermediate
Listening	Native	Advanced	Intermediate
Speaking	Native	Advanced	Intermediate

⚙️ Technical skills

Coding Languages

R – Bash

Software

Fusion 360 – Inkscape

Other

Git – Markdown – LaTeX