Normandie González- Orellana
Data Scientist | Conservation Ecologist
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Academic Training:

2019-2023	University of Puerto Rico, Río Piedras Campus Biology, MSc
2013-2019	University of Puerto Rico, Humacao Campus General Biology, BS
2010-2013	Escuela Superior Vocacional Antonio Fernós Isern, San Lorenzo Business Administration, Accounting Assistant

Certifications:

2023	Data Science & Analytics Professional Certificate Universidad del Sagrado Corazón
2022	Data Carpentries Instructor The Carpentries
2020	Data Science Professional Certificate University of Puerto Rico, Medical Sciences Campus

Research Activities:

2022-Present	*Speciation and Pollination of Ghost Orchids in La Hispaniola* National Botanical Garden Dr. Rafael María Moscoso, Dominican Republic; University of Puerto Rico; Southern Illinois University P.I.: Eladio Fernández, James D. Ackerman, Kurt Neubig Abstract: Morphological differences in flowers of *Dendrophylax* sp. in the Dominican Republic suggest speciation and exploitation of different pollinators. We are conducting a floral fragrance composition analysis to detect further differences, as well as using light traps and visitation observations to identify the pollinators.
2021	*Debunking Myths: Can the fall of the* Phyllophaga *sp. Population in Puerto Rico during the 1930's be explained by precipitation?*-**Manuscript in Preparation** University of Puerto Rico, Rio Piedras Campus Mentor: James D. Ackerman, Biology Department Abstract: Scientists in Puerto Rico introduced the cane toad (*Bufo marinus*) as a biocontrol of *Phyllophaga* sp. (may beetle) infestation in sugar cane plantations in the early 1900s. Although the may beetle problem receded, scientist question whether this was thanks to the toad. In 1984, Freeland, W. J., stated that the decline of the beetle population in Puerto Rico was due to extreme wet and dry seasons between 1930-1936. We use historical data of precipitation in Puerto Rico to evaluate if this statement is true.
2019-2023	*Limitations to Population Growth of the Epiphytic* Psychilis kraenzlinii, *an Endemic Puerto Rican Orchid* (Master's Thesis)-**Submitted Manuscript** University of Puerto Rico, Rio Piedras Campus Mentor: James D. Ackerman, Biology Department Abstract: The distribution of orchids is still not well understood, but the literature suggests that the distribution of epiphytic orchids might be influenced by the distribution of their phorophytes (host trees) and Orchid Mycorrhizal Fungi (OMF). My research studies phorophyte specificity and OMF of the endemic epiphyte *Psychilis kraenzlinii* to elucidate how these affect seed germination.

2017-2019	*Estimates of Population Density of Feral Cats in Puerto Rico* University of Puerto Rico, Humacao Campus Mentor: Raymond L. Tremblay, Biology Department Abstract: Puerto Rico has a high number of feral cats, still a reliable estimate of the population size has not been done. We used mark-recapture techniques in three municipalities of Puerto Rico to estimate feral cat population size in the area.

Awards:

2021-2023	*Conservation Committee Grant* American Orchid Society
2020-2022	*Bridge to the Doctorate Fellowship* Puerto Rico Louis Stokes Alliance for Minority Participation/National Science Foundation University of Puerto Rico, Rio Piedras Campus P.I.: Eduardo Nicolau, PhD. (Grant Number: HRD-1906130)

Experience:

September 2023-Present	*Data Manager* (Independent Consulting) The Learning Partnership/Forward Learning (Data Management, Data Science, Spatial Analysis, Educational Material Development)
Summer 2023	*ArcGIS Data Management Fellowship* The Learning Partnership (Data Curation and Management, Map Creation, Educational Material Development)
March-June 2023	*Data Manager* (Independent Consulting) The Learning Partnership (Data Management, Data Science, Educational Material Development)
Summer 2022	*NSF Environmental Data Initiative (EDI) Data Management Fellowship* University of Wisconsin-Madison, The Learning Partnership/Luquillo LTER-Data Jam Initiative (Data Management, Data Science, Educational Material Development)
2020, 2022-2023	*Undergraduate Research Supervisor/Teaching Assistant* Museum of Zoology, University of Puerto Rico, Rio Piedras Campus, Biology Department
2019	*General Biology Laboratory Teaching Assistant* University of Puerto Rico, Rio Piedras Campus Biology Department
2019	*R Quantitative Analysis Workshops* and *Tidyverse Workshops Teacher's Assistant* UPR-IPERT Program (P.I.: Isar Godreau, Mariluz Franco and Raymond L. Tremblay) With Dr. Denny S. Fernández Del Viso

Languages:

- ✓ Spanish (Fluent)
- ✓ English (Fluent)

Personal Skills:

- ✓ Independent Work
- ✓ Writing
- ✓ Leadership
- ✓ Empathy
- ✓ Adaptable
- ✓ Quick Learner
- ✓ Literature Research
- ✓ Eloquence
- ✓ Intuition
- ✓ Critical Thinking

Software Skills:

- ✓ R (tidyverse, rmarkdown, quarto, shiny)
- ✓ RStudio, Anaconda
- ✓ Python
- ✓ SQL
- ✓ Git
- ✓ GitHub
- ✓ Microsoft Office
- ✓ Google Suit
- ✓ PowerBi
- ✓ ArcGIS (ArcGIS Online, QGIS, ArcGIS Pro)

Data and Statistical Skills:

- ✓ Data Mining
- ✓ Data Management
- ✓ Relational Databases
- ✓ Data Visualization
- ✓ Descriptive Statistics
- ✓ GLMs and Regression
- ✓ Spatial Data Analysis
- ✓ Qualitative and Quantitative Analysis
- ✓ Machine Learning

Oral Presentations:

2023	*Una Carrera en Ciencia de Datos* Data Jam Students Symposium 2023 Invited by: The Learning Partnership/LUQ-LTER Schoolyard
2022	*Second Life of Data: Developing Educational Data for Data Jam Initiative* LTER All Scientists Meeting 2022 Participated Virtually
2019	*Estimates of Population Density of Feral Cats in Puerto Rico* University of Puerto Rico, Mayagüez Campus 38th Puerto Rico Interdisciplinary Scientific Meeting and the 53rd Junior Technical Meeting
2018	*Estimates of Population Density of Feral Cats in Puerto Rico* University of Puerto Rico, Río Piedras Campus Invasive Biology Class Invited by Dr. James D. Ackerman

Poster Presentations:

2021	*Highly Vagile but Rare: What Limits the Local Distribution of an Epiphytic Orchid* Online Symposiums 39th Puerto Rico Interdisciplinary Scientific Meeting and the 54th ACS Junior Technical Meeting Botany2021 Symposium
2020	*Debunking Myths: Can the fall of the* Phyllophaga *sp. Population in Puerto Rico during the 1930's be explained by weather conditions?* Online Symposium 43rd Senior Technical Meeting, 54th Junior Technical Meeting & PR-LSAMP Fall Meeting
2019	*Estimates of Population Density of Feral Cats in Puerto Rico*

University of Puerto Rico, Río Piedras Campus
Puerto Rico's Invasive Species Awareness Symposium
Puerto Rico Department of Natural and Environmental Resources

Workshops & Webinars:

2022 — *Introducción a R y Manejo de Datos con el Paquete Tidyverse*
Workshop at the Jardín Botánico Nacional Dr. Rafael M. Moscoso, República Dominicana
Invited by Betsaida Cabrera

2022 — *Introduction to R, Descriptive and Inferential Statistics with R*
Workshop for REU Students at the University of Puerto Rico, Rio Piedras Campus
Invited by Dr. James D. Ackerman

2021 — *Creación de Mapas Interactivos con* Leaflet
Webinar
Analítica Fundación
Available at: https://www.youtube.com/channel/UC1gdCGTHxlbbAiY21GHH39A

2021 — *Manejo de Datos: Un vistazo al paquete* dplyr
Webinar
Analítica Fundación
Available at: https://www.youtube.com/channel/UC1gdCGTHxlbbAiY21GHH39A

2020, 2021, 2022, 2023 — *Descriptive Statistics with R*
Zoology Museum, University of Puerto Rico, Rio Piedras Campus
BIOL4990-Introduction to Research (Undergraduate Course)

2020 — *CATastrophe: Estimating Cat Population Sizes in Islands using R*
Webinar, Universidad de San Carlos de Guatemala
Bioremediation (Undergraduate Course)
Invited by Alejandro Ruiz

Publications:

Ackerman, J. D., & González-Orellana, N. (2021). Explosive range expansion of Eulophia graminea (Orchidaceae) in Puerto Ricio and the West Indies. *Lankesteriana*, 307-312. doi: http://dx.doi.org/10.15517/lank.v21i3.48871

González-Orellana, N., Salazar-Mendoza, A., Numan, Y. & Ackerman, J.D. (2022). Understanding Orchid Conservation: One Species at a Time. *Orchids*, 91(12), 914–919.

González-Orellana, N., Salazar-Mendoza, A., Tremblay, R.L. & Ackerman, J.D. (Submitted). Best microsites for germination are not predicted by where established individuals occur for a rare epiphytic orchid. *Lankesteriana*.

Volunteer Experience:

2022 — The Learning Partnership
Contributions: Data Management, Educational Material Development, Translator

2021-Present — Analítica Fundación, Inc.
Contributions: Imparting and planning webinars
Webpage: https://analiticafundacion.wordpress.com/