Ciro Cabal

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Education

2021 PhD in Ecology and Evolutionary Biology, Princeton University, USA.

2018 MA in Ecology and Evolutionary Biology, Princeton University, USA.

2013 MS in Ecology, *Universidad Autónoma de Madrid* & *Universidad Complutense de Madrid*, Spain.

2011 BS in Biology (Plant Biology & Environmental Sciences), *Universidad Complutense de Madrid*, Spain.

2003 *Baccaleaureat Général serie Scientifique*, *Académie de Toulouse*, France.

Courses

2018 DNA Metabarcoding Data Analysis Course (10 hours, *AllGenetics*)

2016 Factorial design and experiment analysis in natural sciences (41 hours, *Museo Nacional de Ciencias Naturales*-CSIC)

2015 Applied statistics with R (120 hours, *Universidadad Autónoma de Madrid*)

Professional Experience

current **Juan de la Cierva postdoctoral fellow**, Área de Biodiversidad y Conservación, Universidad Rey Juan Carlos (URJC)

2021-22 **Postdoctoral Research Associate** joint Princeton University High Meadows Environmental Institute (HMEI) – Museo de Ciencias Naturales, Spanish National Research Council (CSIC)

2016-21 **PhD Candidate** in the Pacala Lab, in the Princeton University department of Ecology and Evolutionary Biology (EEB).

2015-16 **Trainee researcher** in the Global Change Ecology research group at the MNCN-CSIC, evaluating the effects of nitrogen depositions in Mediterranean semiarid ecosystems.

2013 **Trainee researcher** assessing the Global Strategy for Plant Conservation (Plants 2020 GSPC), target
2 and 5 in Spain. Project developed for *Tragsatec* and the Spanish Ministry of Environment.

2011-12 **Senior thesis research** modeling carbon uptake and storage in a Spanish Holm Oak stands, with the Analysis of Ecological Systems: Methodology, Dynamics & Management research group, *Universidad Complutense de Madrid*, Spain.

2010-11	**Trainee researcher** developing the program of Ecological Monitoring of Spanish National Parks, mapping vegetation of Monfragüe. Project developed for *Tragsatec* and the Spanish Ministry of Environment.

Congresses and Workshops

Oct 2021	Congreso de la Asociación Española de Ecología Terrestre (AEET) (Plasencia, Spain) - attendee
Jun 2018	A Coruña DNA Metabarcoding Workshop (A Coruña, Spain) - attendee
Jun 2016	CAPERmed II, Committee on Air Pollution Effects Research on Mediterranean Ecosystems (Brescia, Italy) - poster
Oct 2013	Congreso de Biología de la Conservación de Plantas SEBiCoP VI (Murcia, Spain) - poster

Teaching Experience

Fall 2019	Internship adviser of Senior Undergraduate Student, Laura Rodríguez Torres, *Universidad Rey Juan Carlos* (150 hours)
Spring 2019	Princeton University EEB346 Biology of Coral Reefs (34 hours)
Spring 2019	Director of Final Senior Thesis "Root Foraging Behaviour in Peppers" by Aurora de Castro, *Universidad Complutense de Madrid* (225 hours)
Summer 2018	Internship adviser of Senior Undergraduate Student, Aurora de Castro, *Universidad Complutense de Madrid* (150 hours)
Spring 2017	Princeton University ENV200 The Environmental Nexus (34 hours)
Fall 2016	Princeton University EEB211 Life on Earth: Chaos and Clockwork of Biological Design (34 hours)

Awards and Honors

2016	The May Fellowship in the department of Ecology and Evolutionary Biology, Princeton University

Publications

Published in peer-reviewed journals:

Ciro Cabal, 2022. **Root Tragedy of the Commons: What is it and Where Might it Occur?** *Frontiers in plant Science DOI: 10.3389/fpls.2022.960942*

Ciro Cabal, Laura Rodríguez-Torres, Neus Marí-Mena, Antonio Más-Barreiro, Antón Vizcaíno, Joaquín Vierna, Fernando Valladares, and Stephen W Pacala, 2022. **Comparing two field protocols to measure individual shrubs' root density distribution.** *Plant and soil DOI: 10.1007/s11104-022-05657-1*

Ricardo Martínez-García, **Ciro Cabal**, Justin M Calabrese, Emilio Hernández-García, Corina E Tarnita, Cristóbal López, Juan A Bonachela, 2022. **Integrating theory and experiments to link local mechanisms and ecosystem-level consequences of vegetation patterns in drylands**. *Chaos, Solitons and Fractals* DOI: 10.1016/j.chaos.2022.112881

Ciro Cabal, Hannes PT De Deurwaerder, and Silvia Matesanz, 2021. **Field methods to study the spatial root density distribution of individual plants.** Plant and Soil, DOI: 0.1007/s11104-021-04841-z

Ciro Cabal, Ricardo Martínez-García, Aurora de Castro Aguilar, Fernando Valladares, and Stephen W Pacala, 2021. **Future paths for the 'exploitative segregation of plant roots' model.** Plant Signaling & Behavior, DOI: 10.1080/15592324.2021.1891755

Ciro Cabal, Ricardo Martínez-García, Aurora de Castro Aguilar, Fernando Valladares, and Stephen W Pacala, 2020. **The exploitative segregation of plant roots.** Science, DOI: 10.1126/science.aba9877

Ciro Cabal and Daniel I. Rubenstein, 2018. **Above- and Below-Ground Biomass Allocation and Functional Trait Response to Soil Water Inputs and Drying Rates of two Common Savanna Grasses**. Journal of Arid Environments, DOI: 10.1016/j.jaridenv.2018.06.008

Ciro Cabal, Raúl Ochoa-Hueso, María Esther Pérez-Corona, and Esteban Manrique, 2017. **Long-term simulated nitrogen deposition alters the plant cover dynamics of a Mediterranean rosemary shrubland in central Spain through defoliation.** Environmental Science and Pollution Research, DOI: 10.1007/s11356-017-8879-7

Rut Sánchez de Dios, **Ciro Cabal**, Felipe Domínguez Lozano, Helios Sainz Ollero, and Juan Carlos Moreno Saiz, 2017. **The role of criteria in selecting important areas for conservation in biodiversity rich territories.** Diversity and Distributions, DOI: 10.1111/ddi.12535

Reviewer for

Functional Ecology
Oikos
Plant and Soil
AoB plants
Plant Signaling and Behaviour