

# GABRIEL P. ANDRADE-PONCE

Colombian biologist graduated from the Universidad Nacional de Colombia and Master of Science from the Instituto de Ecología A.C. in Xalapa, Mexico. Currently I am a doctoral student at the Instituto de Ecología A.C. I have focused my work on the use of statistical models and particularly hierarchical models to understand the processes that affect species abundance, distribution and co-occurrence. Likewise, I use quantitative tools to respond to monitoring and conservation objectives of species in different parts of Latin America. I enjoy teaching, so I have organized and collaborated in different courses and workshops on statistical modeling and use of R language for ecologists (undergraduate students, graduate students and practitioners).



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## EDUCATION

Current  
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2019

### Ph. D. in science

Red de Biología y Conservación de Vertebrados

 Instituto de Ecología A.C., Xalapa, Mexico

- Focused on evaluating exogenous and endogenous factors affecting mammal co-occurrence patterns and how they are interpreted.
- CONACYT grant

2019  
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2017

### Master of Science

Red de Biología y Conservación de Vertebrados

 Instituto de Ecología A.C., Xalapa, Mexico

- Thesis: Interaction of *Canis latrans* and *Vulpes macrotis* in the Mapimí Biosphere Reserve.
- CONACYT grant

2015  
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2009

### Bsc Biology

Biology Department

 Universidad Nacional de Colombia, Bogota, Colombia

- Thesis: Influence of an Amazonian salt marsh on the fauna richness in the middle Caquetá river basin, Colombia.

## CONTACT

 [gpandradep@gmail.com](mailto:gpandradep@gmail.com)

 [@Gatorco\\_AP](https://twitter.com/Gatorco_AP)

 [gpandradep](https://github.com/gpandradep)

 [Web site](#)

 [Researchgate](#)

Made with the R package  
[pagedown](#).

The source code is available [on github.com/nstrayer/cv](https://github.com/nstrayer/cv).

Last updated on 2023-11-02.



## PUBLICATIONS


- 2023      **Socioecological Assessment of Mammal Assemblages in Small Oil-Palm Plantations in a Highly Deforested Region in Mexico**  
Tropical Conservation Science  
<https://doi.org/10.1177/19400829231169977>  
• Co-authored with Franquesa-Soler, M., Ocampo-Saure, F., Mora, F., and Andresen, E.
- 2023      **Assessing microhabitat, landscape features and intraguild relationships in the occupancy of the enigmatic and threatened Andean tiger cat (*Leopardus tigrinus pardinoides*) in the cloud forests of northwestern Colombia**  
PLOS ONE  
<https://doi.org/10.1371/journal.pone.0288247>  
• Co-authored with Cepeda-Duque JC, Montes-Rojas, Rendón-Jaramillo, López-Velasco, Arango-Correa, López-Barrera, Mazariegos, Lizcano, Link, de Oliveira
- 2023      **Expanding the frontiers of camera-trapping in Colombia: application of the “Mostela” system to gain knowledge on small non-volant mammals from an Andean cloud forest**  
Mammalia  
<https://doi.org/10.1515/mammalia-2023-0033>  
• Cepeda-Duque, J. C., Arango-Correa, E., Mazariegos, L., Hofmeester, T. R., & Ramírez-Chaves, H. E.
- 2023      **Neotropical Mammals: Hierarchical analysis of Occupancy and Abundance**  
Springer Book  
<https://doi.org/10.1007/978-3-031-39566-6#toc>  
• Editor with Salvador Mandujano and Eduardo Naranjo
- 2023      **Chapter 15 – Overview of Hierarchical models and future Directions in the Study of Neotropical Mammals**  
Chapter at Neotropical Mammals: Hierarchical analysis of Occupancy and Abundance  
[https://doi.org/10.1007/978-3-031-39566-6\\_15](https://doi.org/10.1007/978-3-031-39566-6_15)
- 2023      **Chapter 14 – Occupancy Modeling reveal that landscape scale drives habitat use by White-tailed deer in the Tehuacán-Cuicatlán Biosphere Reserve, Mexico**  
Chapter at Neotropical Mammals: Hierarchical analysis of Occupancy and Abundance  
[https://doi.org/10.1007/978-3-031-39566-6\\_14](https://doi.org/10.1007/978-3-031-39566-6_14)  
• Co-authored with Salvador Mandujano, Arturo Zavaleta, Concepción López-Tellez

- 2023 **Chapter 1 - Neotropical Mammals and the Analysis of Occupancy and Abundance**  
Chapter at Neotropical Mammals: Hierarchical analysis of Occupancy and Abundance  
[https://doi.org/10.1007/978-3-031-39566-6\\_1](https://doi.org/10.1007/978-3-031-39566-6_1)  
• Co-authored with Salvador Mandujano and Eduardo Naranjo
- 2022 **A framework to interpret co-occurrence patterns from camera trap data: The case of the gray fox, the bobcat, and the eastern cottontail rabbit in a tropical dry habitat**  
Journal of zoology <https://doi.org/10.1111/jzo.13002>  
• Authored with Mandujano, S., Dáttilo, W., Farías-González, V., Jiménez, J., Velásquez-C, K. and Zavaleta, A.
- 2021 **Does patch Quality drive arboreal mammal assemblages in fragmented rain forest?**  
Perspectives in Ecology <https://doi.org/10.1016/j.pecon.2020.12.004>  
• Co-authored with Sabine Cudney-Valenzuela, Víctor Arroyo-rodríguez, Ellen Andresen, Tarin Toledo-Aceves, Francisco Mora Ardila, Salvador Mandujano
- 2021 **Modelos de Ocupación para datos de cámaras trampa: de los conceptos a la interpretación**  
Mammalogy Notes <https://doi.org/10.47603/mano.v7n1.200>  
• Authored with Cepeda-Duque, J. C., Mandujano, S., Velásquez-C, K. L., Lizcano, D. J., & Gómez-Valencia, B.
- 2020 **Coexistencia de Vulpes macrotis y Canis latrans (Carnivora: Canidae) en la Reserva de la Biosfera de Mapimí, México**  
Revista Mexicana de biodiversidad <https://doi.org/10.22201/ib.20078706e.2020.91.2973>  
• Authored with con Sonia Gallina, Bibiana Gómez-Valencia y Andrés Lira-Noriega
- 2020 **Interaction between Ground Squirrels with rattlesnakes in arid zones**  
Therya Notes [https://doi.org/10.12933/therya\\_notes-20-4](https://doi.org/10.12933/therya_notes-20-4)  
• Authored with Sandra H. Montero-Bagatella, Jessica Duran-Antonio, Alberto González-Romero y Sonia Gallina
- 2020 **Registros de mamíferos terrestres en un salado natural y sus inmediaciones en el Resguardo Indígena Nonuya Villazul, departamento del Amazonas-Colombia**  
Mammalogy Notes <https://doi.org/10.47603/manovol6n1.mn0107>

- 2020 **Uso de bebederos artificiales por pequeños roedores en un bosque tropical seco en Oaxaca, México**  
Mammalogy Notes  <https://doi.org/10.47603/mano.v6n2.179>  
• Co-authored with Carlos A Hernández-Gómez, Karen L. Velásquez-Carrillo, Salvador Mandujano
- 2017 **Notable altitudinal range expansion of *Lontra longicaudis* (Carnivora: Mustelidae) in Colombian Paramos**  
Therya  <https://doi.org/10.12933/therya-17-429>  
• Authored with Angarita-Sierra, T
- 2016 **Estado del conocimiento y prioridades de investigación sobre las familias Canidae, Mephitidae y Procyonidae (Mammalia: Carnivora) en Colombia**  
Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales  <https://doi.org/10.18257/raccefyn.327>  
• Authored with S.M. Montaña-Salazar, L.M. Riveros-Loaiza, H.E. Ramírez-Chaves y Suárez-Castro A.F.
- 2015 **Generalidades del orden Carnívora**  
En Los carnívoros terrestres y semiacuáticos continentales de Colombia. Guía de Campo  (PDF) Generalidades del orden Carnívora  
• Authored with J.S. Jiménez-Ramírez, S.M. Montaña-Salazar y L.M. Riveros-Loaiza



## RESEARCH EXPERIENCE

- Current  
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2023 **Monitoring of Jaguar (*Panthera onca*) in the departments of Guaviare and Putumayo, Colombia**  
Fondo Mundial para la naturaleza Colombia- WWF Colombia  Bogotá, Colombia
- Contract to develop occupancy models for monitoring the use of corridors by Jaguar
  - Development of species occupancy models
  - Selection and organization of environmental variables related to jaguar occupation
  - Development of hierarchical community models under a Bayesian approach, for species monitoring
  - Graphic and cartographic outputs of the models
  - Support for the interpretation of the results obtained

2023

### Management and control of invasive species: The European rabbit (*Oryctolagus cuniculus*)

Servicio al mundo y Centro de Ecología aplicada y sustentabilidad (CAPES)

📍 Santiago de Chile, Chile

- Cooperation for the analysis of data from European rabbit camera traps on Juan Fernandez Island, Chile.
- Camera trap data processing
- Analysis of hierarchical models of occupancy and abundance of the European rabbit
- Advise and train undergraduate students for the use of species abundance and co-occurrence models



## TEACHING EXPERIENCE

2023

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2023

### Introduction to statistics

Posgrado, Instituto de Ecología A.C

📍 Instituto de Ecología A.C., Xalapa, Mexico

- Support teacher
- Introduction to the use of R; ggplot for descriptive statistics and support in practical sessions.
- 33 hours

2022

### FototrampeoR: Organization and analysis of medium and large mammal data from camera trap data

XV Congreso Nacional de Mastozoología

📍 Chihuahua, Mexico

- Coordinating teacher
- General photo-trapping issues. Photo-trapping data organization. Relative abundance analysis and main alpha diversity indices applied to phototrapping.
- 8 hours

2022

### Photo-trapping workshop in R. Occupancy and abundance modeling.

School of Biological Sciences

📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico

- Coordinating teacher
- Concepts and modeling of one- and two-species occupancy models. Fitting and application of hierarchical models in R language. Support of doubts in R language.
- 20 hours

2022	<p><b>Photo-trapping workshop in R. Fauna-habitat analysis in GIS-R</b></p> <p>School of Biological Sciences</p> <p>📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico</p> <ul style="list-style-type: none"> <li>• Teacher</li> <li>• Concepts, evaluation and analysis of spatial independence in camera trap studies. Support to students in the use of R</li> <li>• 20 hours</li> </ul>
2022	<p><b>Photo-trapping workshop in R. Diversity analysis</b></p> <p>School of Biological Sciences</p> <p>📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico</p> <ul style="list-style-type: none"> <li>• Teacher</li> <li>• Use of multi-species occupancy models to estimate richness, limitations and advantages. Support to students in the use of R</li> <li>• 20 hours</li> </ul>
2022	<p><b>Photo-trapping workshop in R. Basics: Photo Organization and Analysis</b></p> <p>School of Biological Sciences</p> <p>📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico</p> <ul style="list-style-type: none"> <li>• Teacher</li> <li>• Experiences and suggestions for camera trap sampling design. Support for data organization and R language handling.</li> <li>• 20 hours</li> </ul>
2022	<p><b>Occupancy models for the study of wildlife distribution and habitat use.</b></p> <p>Faculty of Biological Sciences</p> <p>📍 Universidad Autónoma de Nuevo León, Nuevo Leon, Mexico</p> <ul style="list-style-type: none"> <li>• Coordinating teacher</li> <li>• Course management. General concepts of occupancy models applied to the study of the distribution and use of wildlife habitat. Application of 1- and 2-species models in R language. Fitting and validation of 1-species occupancy models.</li> <li>• 15 hours</li> </ul>
2021	<p><b>Photo-trapping workshop in R. Basics: Photo Organization and Analysis</b></p> <p>School of Biological Sciences</p> <p>📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico</p> <ul style="list-style-type: none"> <li>• Teacher</li> <li>• Experiences and suggestions for camera trap sampling design. Support for data organization and R language handling.</li> <li>• 20 hours</li> </ul>

2020

### **Phototrapping in R: Data Organization and Analysis**

Escuela de Métodos

📍 Universidad Nacional Autónoma de México, Morelia, Mexico

- Teacher
- Support and introduction to camtrapR functions for phototrapping data analysis.
- 16 hours

2020

### **Photo trapping workshop in R**

School of Biological Sciences

📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico

- Teacher
- Experiences and suggestions for the design of camera trap sampling. Support for data organization and R language handling.
- 20 hours

2020

### **Photo trapping workshop in R**

School of Biological Sciences

📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico

- Teacher
- Experiences and suggestions for the design of camera trap sampling. Support for data organization and R language handling.
- 20 hours

2019

### **Techniques and Methods for the Study and Conservation of Wildlife**

Red de biología y conservación de vertebrados

📍 Instituto de Ecología A.C., Xalapa, Mexico

- Invited Professor
- Talk about experience in carnivore co-occurrence studies in the Mapimí Biosphere Reserve, Durango, Mexico.
- 1 hour

## **CONGRESSES AND SYMPOSIUMS**

2023

### **From competition to patterns: exploring the relationship between ecological theory and co-occurrence patterns in carnivorous mammals**

XV National Congress of Mastozoology

📍 Chihuahua, Mexico

- Gabriel Patricio Andrade Ponce, Yolotli Morales Góngora, Carlos Hernández, Alan P. Suárez-López, Eva López-Tello, Fernando Ocampo-Saure, Mariano Avendaño-Díaz, Víctor Castelazo-Calva, Juan Camilo Cepeda-Duque y Jessica Duran- Antonio

- 2023 **Framework for interpreting co-occurrence patterns of camera trap data: the case of the gray fox, the bobcat and the cottontail rabbit in a dry tropical habitat**  
XV National Congress of Mastozoology  Chihuahua, Mexico
- Gabriel Andrade Ponce, Salvador Mandujano, Wesley Dáttilo, Verónica Farías-González, José Jiménez, Karen Velásquez Carrillo, Arturo Zavaleta y Arturo Zavaleta
- 2018 **Co-occurrence of *Vulpes macrotis* and *Canis latrans* in the Mapimí Biosphere Reserve, Mexico**  
III Symposium of Small Carnivores, III Colombian congress of Mastozoology and V Colombian Congress of Zoology  Bogota, Colombia
- Gabriel Andrade Ponce, Sonia Gallina-Tessaro, Bibiana Gómez-Valencia, Andrés Lira-Noriega
- 2014 **State of Knowledge and distribution of the Canidae and Procyonidae Families in Colombia**  
II Symposium of Small Carnivores, IV Colombian Congress of Zoology  Cartagena, Colombia
- Gabriel Andrade Ponce, Andres Felipe Suárez Castro, Hector Ramirez Chaves, Sandra Montaña Salazar, Luis Miguel Riveros Loaiza

## AWARDS & GRATNS

- 2020 **Award for academic excellence Best Master's thesis**  
Asociación Mexicana de Mastozoología (AMMAC)  <https://www.youtube.com/watch?v=m1ibdidFyM>
- Recognition granted by the Mexican Association of Mastozoology for the best master's thesis in its 2020 edition, first place
- 2018 **Effect of Grazing and Co-Occurrence Species on the Occupancy of Carnivore Mammals at the Mapimi Biosphere Reserve, Mexico**  
The Rufford Foundation  Jessica Durán Antonio - Effect of Grazing and Co-Occurrence Species on the Occupancy of Carnivore Mammals at the Mapimi Biosphere Reserve, Mexico - The Rufford Foundation
- Acquired with Jessica Duran-Antonio. Total funding of ESP 3,753
- 2018 **Scholarship for academic excellence at the V Colombian Congress of Zoology**  
Asociación Colombiana de Zoología
- Scholarship awarded by the Colombian Zoology Association for the work "Co-occurrence of *Vulpes macrotis* and *Canis latrans* in the Mapimí Biosphere Reserve, Mexico"



2017

### **Pandi's mushroom tongue salamander (*Bolitoglossa pandi*)**

Mohamed bin Zayed Species

📍 Pandi's mushroom tongue salamander Conservation Case Study

• Acquired with Teddy Angarita. Total funding of USD 12,400