

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

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

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

 [Web site](#)

 [Researchgate](#)

TEACHING EXPERIENCE

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

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

Last updated on 2023-10-31.

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

Photo-trapping workshop in R. Fauna-habitat analysis in GIS-R

School of Biological Sciences

📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico

- Teacher
- Concepts, evaluation and analysis of spatial independence in camera trap studies. Support to students in the use of R
- 20 hours

2022

Photo-trapping workshop in R. Diversity analysis

School of Biological Sciences

📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico

- Teacher
- Use of multi-species occupancy models to estimate richness, limitations and advantages. Support to students in the use of R
- 20 hours

2022	<p>Photo-trapping workshop in R. Basics: Photo Organization and Analysis</p> <p>School of Biological Sciences</p> <p>📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico</p> <ul style="list-style-type: none"> • Teacher • Experiences and suggestions for camera trap sampling design. Support for data organization and R language handling. • 20 hours
2022	<p>Occupancy models for the study of wildlife distribution and habitat use.</p> <p>Faculty of Biological Sciences</p> <p>📍 Universidad Autónoma de Nuevo León, Nuevo Leon, Mexico</p> <ul style="list-style-type: none"> • Coordinating teacher • 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. • 15 hours
2021	<p>Photo-trapping workshop in R. Basics: Photo Organization and Analysis</p> <p>School of Biological Sciences</p> <p>📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico</p> <ul style="list-style-type: none"> • Teacher • Experiences and suggestions for camera trap sampling design. Support for data organization and R language handling. • 20 hours
2020	<p>Phototrapping in R: Data Organization and Analysis</p> <p>Escuela de Métodos</p> <p>📍 Universidad Nacional Autónoma de México, Morelia, Mexico</p> <ul style="list-style-type: none"> • Teacher • Support and introduction to camtrapR functions for phototrapping data analysis. • 16 hours
2020	<p>Photo trapping workshop in R</p> <p>School of Biological Sciences</p> <p>📍 Benemérita Universidad Autónoma de Puebla, Puebla, Mexico</p> <ul style="list-style-type: none"> • 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



PUBLICATIONS

in press

Neotropical Mammals: Hierarchical analysis of Occupancy and Abundance

Springer Book

📍 <https://doi.org/10.1007/978-3-031-29566-6>

- Editor with Salvador Mandujano and Eduardo Naranjo

in press

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

in press

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

- Co-authored with Salvador Mandujano, Arturo Zavaleta, Concepción López-Tellez

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.
- 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
- 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
• Authored with J.S. Jiménez-Ramírez, S.M. Montaña-Salazar y L.M. Riveros-Loaiza

GRANTS

- 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
- 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



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

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

📍 Bogotá, 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