

Sebastián Block Munguía

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Institute of Integrative Biology, ETH Zürich, Universitätsstrasse 16, 8092, Zürich, Switzerland

Professional preparation

Apr 2016 – present

PhD in Ecology

ETH Zürich, Zürich, Switzerland

Advisor: Jonathan Levine

Aug 2013 – Aug 2015

M.Sc. in Applied Ecology, graduated with distinction Erasmus Mundus International Program

- University of Poitiers, France — Aug 2013 to Mar 2014
- University of Coimbra, Portugal — Mar 2014 to Jul 2014
- University of Kiel, Germany — Oct 2014 to Mar 2015

Master thesis co-advised by Corey Bradshaw, Ingmar Unkel, and Frederik Saltré at the University of Adelaide, Australia.

Aug 2007 – Nov 2011

B.Sc. in Biology, graduated with honors

Faculty of Sciences, National Autonomous University of Mexico, Mexico City, Mexico

Advisor: Jorge A. Meave

Research experience

Oct 2015 – Feb 2016

Research Associate

University of Adelaide, Australia

I compiled a global database of fossil records to study the range shifts, extinctions, and community dynamics of the Late Pleistocene, and their implications for modern conservation science.

Feb 2007 – Aug 2007

Research Assistant

Plant Molecular Biology Research Group, Center of Genomic Sciences, National Autonomous University of Mexico, Cuernavaca, Mexico

I assisted research aiming at the genetic transformation of *Phaseolus vulgaris* with the bacteria *Agrobacterium rhizogenes*, and the study of the genetic basis of plant associations with nitrogen-fixing bacteria.

Awards

- 2017. Best Oral Presentation Award. POPBIO2017. 30th Conference of the Plant Population Biology Section of the Ecological Society of Germany, Austria and Switzerland | GfÖ
- 2016. 1st Prize Modelling Complex Ecological Dynamics Award (BSc/MSc Category)
- 2014-2015. University of Coimbra Academic Achievement Award
- 2013-2015. Erasmus Mundus Category A Scholarship
- 2010-2011. National Autonomous University of Mexico Academic Achievement Recognition
- 2011. National Autonomous University of Mexico International Mobility Scholarship

Publications

Published

- Block S.** and Meave J.A. Landscape-scale effects of geomorphological heterogeneity on variability of oak forest structure and composition in a monogenetic volcanic field. *Plant Ecology and Diversity*. DOI: 10.1080/17550874.2017.1330367
- Block S.**, González E.J., Gallardo-Cruz A., Fernández A., Solórzano J.V., and Meave J.A. 2016. Using Google Earth Surface Metrics to Predict Plant Species Richness in a Complex Landscape. *Remote Sensing* 8(10):865. doi:10.3390/rs8100865
- Block S.**, Saltré F. Rodríguez-Rey M., Fordham D.A., Unkel I., and Bradshaw C.J.A. 2016. Where to Dig for Fossils: Combining Climate Envelope, Taphonomy and Discovery Models. *PLoS ONE* 11(3):e0151090. doi:10.1371/journal.pone.0151090
- Block S.** and Meave J.A. 2015. Structure and diversity of oak forests in the El Tepozteco National Park (Morelos, Mexico). *Botanical Sciences* 93(3): 1-32.

Presentations

Contributed conference posters

- Block S.**, Levine J. and Alexander J. 2017. Phenological plasticity is unrelated to alpine species responses to warming. BES, GfÖ, NecoV, and EEF Joint Annual Meeting, Ghent, Belgium.
- Block S.**, Levine J. and Alexander J. 2017. Phenological plasticity is a poor predictor of alpine species responses to climate change. POPBIO 2017, Halle / Salle, Germany.
- Block S.** and Meave J.A. 2013. Geomorphological heterogeneity is a major driver of oak forest diversity in a complex volcanic landscape. INTECOL-BES-2013 Joint Meeting, London, United Kingdom.
- Block S.** and Meave J.A. 2013. How Does Geomorphological Heterogeneity Affect Structure and Beta-Diversity of the Tropical Montane Oak Forests of the El Tepozteco National Park (Morelos State), Mexico? ATBC-OTS-2013 Joint Meeting, San José, Costa Rica.

Block S. and Meave J.A. 2013. Estructura y diversidad de los encinares del Parque Nacional El Tepozteco (México). XIX Congreso Mexicano de Botánica (XIX Mexican Congress of Botany), Tuxtla Gutiérrez, Chiapas, Mexico.

Block S. and Meave J.A. 2013. Heterogeneidad florística de los encinares del Parque Nacional El Tepozteco (Morelos, México). IV Congreso Mexicano de Ecología (IV Mexican Congress of Ecology), Villahermosa, Tabasco, México.

Teaching

University courses

Quantitative Approaches to Plant Population and Community Ecology (ETH Zürich).
Module on Analysis of Community Data, Spring 2018.

Fundamental Questions in Environmental Sciences (ETH Zürich). Student mentor,
Spring 2017.

Quantitative Approaches to Plant Population and Community Ecology (ETH Zürich).
Teaching assistant, Spring 2017.

Environmental Biology Seminars (ETH Zürich). Student mentor, Fall 2016.

Other graduate courses

Summer School on Alpine Plant Ecology, Furka Pass, Swiss Central Alps (Zürich-Basel
Plant Science Center). Student mentor. July 19th-21st 2018.

Online courses

Coastal Ecosystems. I designed and taught a module on marine and coastal ecology in
the course “Integral Coastal Zone Management” offered by the *Latin American
Center for Environmental Education* (CELEAM in Spanish) on November 2014 and
2015, and by *México Sostenible* in 2016.

Advanced coursework

2018. Landscape Genetics – Distributed Graduate Seminar (University of Zürich)

2017. Learning to Teach. Course for ETH Doctoral Teaching Assistants (ETH
Zürich).

2017. Workshop on Biotic Interactions (Prof. Ragan M. Callaway, Prof. Christopher
J. Lortie, Prof. Rob W. Brooker, Prof. Richard Michalet, Dr. Francisco I. Pugnaire,
Prof. Lohengrin A. Cavieres, Dr. Christian Schöb, Dr. Bodil Ehlers).

2016. Mixed-Effects Modelling with R (University of Zürich).

2016. Alpine Ecology – International Summer School on Alpine Plant Life (Zürich-
Basel Plant Sciences Center)

2015. Reproducible Research (Johns Hopkins University / Coursera Online
Platform).

2015. R Programming (Johns Hopkins University / Coursera Online Platform).

2014. The Data Scientist's Toolbox (Johns Hopkins University / Coursera Online Platform).

2012. Diploma in Science Communication (National Autonomous University of Mexico).

Blog posts

In Spanish

Nuestra riqueza invisible - About the great ecosystem services of the poorly known bacterial diversity. [Link](#)

Ingeniería climática - About climate engineering. [Link](#)

Lenguas y especies - About similarities in the diversity, evolution and extinction of languages and species. [Link](#)

La grandeza perdida - About the Australian megafauna. [Link](#)

La danza glacial de la vida - About the glacial cycles of the Pleistocene. [Link](#)

In English

Ecosystem Analysis - About the course of Principles in Ecosystem Analysis that we had at the University of Poitiers at the beginning of our master studies. [Link](#)

Skills

Computer

- R and Python programming for data analysis and modelling
- Basic SQL for database management
- Version control with Git and GitHub
- Spatial analysis with QGIS and ArcGIS

Languages

- Spanish (mother tongue)
- English (full professional proficiency)
- French (Level B1 in Common European Framework of Reference for Languages)

Fieldwork

- Advanced Open Water Diver by NAUI
- Botanical knowledge
- Vegetation sampling

Referees

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Dr. Frederik Saltré
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Prof. Corey Bradshaw
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