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JOSE SANTIAGO ORTEGA RAMIREZ

Curriculum Vitae

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Research interests

- Phenology, climate change ecology, and environmental predictability
- Life-history evolution, reproductive strategies, and individual plasticity
- Bayesian hierarchical modelling, random regression, and location-scale models
- Meta-analysis, systematic reviews/maps, and evidence synthesis in ecology and evolution
- Open science, reproducible workflows, and quantitative research synthesis

Work experience

Mar 2025– present **Postdoctoral Fellow**

University of Alberta, Edmonton, Canada. Member of the Collaboration for Open Science and Synthesis in Ecology and Evolution (COSSEE).

2023–2025 **Assistant to an Emeritus Professor of the National System of Researchers**
Consejo Nacional de Humanidades y Tecnología (CONAHCyT), Mexico City, Mexico.

Education

2019–2023 **PhD in Science, Programa de Posgrado en Ciencias Biológicas, UNAM**
Honors: *magna cum laude*. Thesis: *Life history plasticity: reproductive investment adjustments in a long-lived seabird*.

2021 **PhD candidacy, Programa de Posgrado en Ciencias Biológicas, UNAM**
(Program milestone / candidacy completion).

2016–2018 **MSc in Biological Sciences, Programa de Posgrado en Ciencias Biológicas, UNAM**
Honors: *magna cum laude*. Thesis: *Efecto de las condiciones ambientales natales sobre la historia de vida del bobo de patas azules*.

2012–2015 **BSc in Biology, Facultad de Ciencias, UNAM**

Awards

2023 **Animal Behavior Society & Elsevier Best Paper Award**

For: *Extra-pair offspring of the blue-footed booby show no sign of higher fitness in the first ten years of life.*

Scientific production

Empirical

Drummond, H., Rodriguez, C., and **Ortega, S.** (2025). Long-term insights into who benefits from brood reduction. *Behavioral Ecology* 36.4, araf050. DOI: [10.1093/beheco/araf050](https://doi.org/10.1093/beheco/araf050).

Ortega, S., Ramirez-Loza, J. P., Rodriguez, C., Perez-Morales, D., and Drummond, H. (2023). Extra-pair offspring of the blue-footed booby show no sign of higher fitness in the first 10 years of life. *Animal Behaviour* 200.4, pp. 105–114. DOI: [10.1016/j.anbehav.2023.03.015](https://doi.org/10.1016/j.anbehav.2023.03.015).

Ortega, S., Rodriguez, C., and Drummond, H. (2022). Seasonal weather effects on offspring survival differ between reproductive stages in a long-lived neotropical seabird. *Oecologia* 199.3, pp. 611–623. DOI: [10.1007/s00442-022-05219-3](https://doi.org/10.1007/s00442-022-05219-3).

Ortega, S., Rodriguez, C., Mendoza-Hernandez, B., and Drummond, H. (2021). How removal of cats and rats from an island allowed a native predator to threaten a native bird. *Biological Invasions* 23.9, pp. 2749–2761. DOI: [10.1007/s10530-021-02533-4](https://doi.org/10.1007/s10530-021-02533-4).

Ortega, S., Sanchez-Macouzet, O., Urrutia, A., Rodriguez, C., and Drummond, H. (2017). Age-related parental care in a long-lived bird: implications for offspring development. *Behavioral Ecology and Sociobiology* 71.9, p. 132. DOI: [10.1007/s00265-017-2364-7](https://doi.org/10.1007/s00265-017-2364-7).

Methodological / statistical

Nakagawa, S., **Ortega, S.**, Gazzea, E., Lagisz, M., Lenz, A., Lundgren, E., and Mizuno, A. (2025). Location-scale models in ecology and evolution: Heteroscedasticity in continuous, count and proportion data. *Methods in Ecology and Evolution* 17.2, pp. 554–566. DOI: [10.1111/2041-210X.70203](https://doi.org/10.1111/2041-210X.70203).

Meta-analytic / evidence synthesis

Radchuk, V., Jones, C. V., McLean, N., Charmantier, A., Teplitsky, C., Alisauskas, R., et al. (2026). Changes in phenology mediate vertebrate population responses to temperature globally. *Nature Communications* 17.1, p. 479. DOI: [10.1038/s41467-025-68172-8](https://doi.org/10.1038/s41467-025-68172-8).

Preregistered protocols

Mizuno, A., Santos, E., Morrison, K., **Ortega, S.**, Young, S., Hernandez, S., Lin, X., Culina, A., Lagisz, M., and Nakagawa, S. (2025). Systematic mapping of evidence syntheses on urbanisation impacts on organisms and biodiversity: A protocol. OSF preregistration / protocol. DOI: [10.17605/OSF.IO/PXGFH](https://doi.org/10.17605/OSF.IO/PXGFH).

Ortega, S., Mizuno, A., Hernandez, S., Lundgren, E., Lenz, A., Lagisz, M., and Nakagawa, S. (2025). The effects of music exposure on rodent anxiety- and depression-like behaviours: a protocol for a systematic review and meta-analysis. OSF preregistration / protocol. DOI: [10.17605/OSF.IO/MV78T](https://doi.org/10.17605/OSF.IO/MV78T).

Under review

Nakagawa, S., Mizuno, A., Williams, C., Lagisz, M., O’Dea, R., Noble, D., Senior, A., Lundgren, E., and **Ortega, S.** (2026). A new effect size for meta-analysis of magnitude: lnM. *Ecology Letters*. Under review.

Lenz, A., Mizuno, A., Lundgren, E., Morrison, K., **Ortega, S.**, Lagisz, M., and Nakagawa, S. (2025). A systematic map of systematic reviews and meta-analyses on anthropogenic noise impact on wildlife. Under review. DOI: [10.32942/X2435S](https://doi.org/10.32942/X2435S).

Nakagawa, S., Mizuno, A., Williams, C., **Ortega, S.**, Drobniak, S., Lagisz, M., Yang, Y., Senior, A., Noble, D., and Lundgren, E. (2025). Mastering an accurate and generalizable simulation-based method to obtain bias-corrected point estimates and sampling variance for any effect sizes. *Research Synthesis Methods*. Under review.

Research internships

- 2022** **Short-term research internship (University of Edinburgh, UK)**
Analysed individual plastic responses to local climate change using random regression models under the supervision of Prof. Loeske Kruuk.
- 2017** **Research internship (Centre d'Estudis Avançats de Blanes, Spain)**
Training in multi-state modelling approaches for individual histories and demographic analyses (including E-SURGE/U-CARE-related workflows).

Teaching, mentoring, and training contributions

- Contributed to collaborative methodological training in ecology and evolution, including support for examples, workflows, and explanatory materials for statistical methods papers/tutorials.
- Supported evidence-synthesis projects through screening, data extraction, and revision of drafts (including systematic maps and meta-analytic protocols).
- Provided quantitative analysis support to collaborators in ecological research projects, including Bayesian model implementation and interpretation.
- Contributed to team-based research training environments through collaborative problem-solving, reproducible workflows, and manuscript development support.

Professional service and memberships

Research networks and working groups

- 2025–present — Member, Collaboration for Open Science and Synthesis in Ecology and Evolution (COSSEE), University of Alberta, Canada.
- 2018–present — Member, sTraitChange working group, German Centre for Integrative Biodiversity Research (iDiv).

Academic and outreach service

- 2021 — Scientific advisor for the *Animalia* art exhibition, Academia de San Carlos, Facultad de Artes, UNAM.

Peer-review activity

- 10 peer reviews for 9 publications recorded in [ORCID reviewer recognition](#).
- Ad hoc reviewer for *Avian Research*, *Bird Study*, *Ecology and Evolution*, *Journal für Ornithologie*, *Journal of Applied Ecology*, *Nature Climate Change*, *Nature Communications*, *PLOS ONE* (2 reviews),

Workshops and specialized training

- 2023 — Participant, SQUID workshop, Mexico City, Mexico.
- 2018 — Participant, “Modelling individual histories with state uncertainty”, Montpellier, France.
- 2016 — Participant, workshop: “Medición de longitud telomérica”, Universidad de Tlaxcala, Mexico.
- 2014 — Participant, workshop: “Métodos para estimación de metabolismo en vertebrados terrestres”, Universidad de Guanajuato, Mexico.
- 2013 — Participant, workshop: “Studying flight initiation distance in the field”, Centro de biología conductual, Tlaxcala, Mexico.

Conference presentations

Poster presentations

- 2017 — “Do birds respond to early adversity by modifying the life history and end up paying a delayed cost?”
54th Annual Conference of the Animal Behavior Society, University of Toronto Scarborough, Canada.
- 2016 — “Vive rápido, muere joven y deja un bonito cadáver: Variación individual en la velocidad de estrategias de historia de vida en el bobo de patas azules”
XXI Curso Internacional Bases Biológicas de la Conducta, Universidad de Tlaxcala, Mexico.
- 2015 — “Development and senescence of parental care in a long-lived bird”
52nd Annual Conference of the Animal Behavior Society, University of Anchorage, USA.
- 2014 — “Los Años no pasan en vano: el efecto de la edad y la pareja sobre la defensa del nido en el bobo de patas azules”
XIX Curso Internacional Bases Biológicas de la Conducta, Universidad de Guanajuato, Mexico.

Technical and computational skills

Statistical modelling and quantitative methods

- Generalized linear and generalized linear mixed models (GLMs/GLMMs)
- Bayesian multilevel modelling (e.g., `brms`, `cmdstanr`/Stan workflows)
- Random regression models and individual reaction norm analyses
- Location–scale (distributional) models and heteroscedasticity modelling
- Survival and multi-state modelling (including E-SURGE and U-CARE workflows)
- Meta-analysis (including multilevel/meta-regression models) and effect-size computation

Evidence synthesis and review methods

- Systematic reviews and systematic maps (search strategy design, screening, extraction)
- Protocol development and preregistration (OSF-based workflows)
- Data extraction, coding, and quality control for evidence synthesis projects

Programming, software, and reproducible workflows

- **R** (data wrangling, modelling, visualization, reproducible analysis pipelines)

- tidyverse, brms, cmdstanr, metafor, patchwork, Quarto/R Markdown
- Git and GitHub for version control and collaborative code development
- Microsoft Office; Mendeley/Zotero-based reference management
- Adobe Illustrator and Adobe Photoshop for figure preparation

Languages

Spanish: Native.

English: Proficient (certified by CELE, UNAM).

Additional skills

- Scientific figure design and visual communication (Adobe Illustrator, Adobe Photoshop)
- Fieldwork in seabird behavioral ecology (capture, behavioral observations, method development)
- Artistic practice: illustration, sculpture, photography, and drawing