MATTHEW OWEN MOREIRA

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PROFILE

My main interests are in ecology and evolutionary biology, macroevolution and global change, focusing on evolutionary trends, taxonomic diversity, and diversity dynamics in land vertebrates. Overall, I am passionate about identifying general evolutionary patterns that may apply to all organisms.

EDUCATION

Degrees

2018–2023 **PhD** in *Biology and Ecology of Global Change*. University of Aveiro & University of Lisbon (Portugal) – "deserving of distinction and merit".

2014–2016 **MSc** in *Applied Ecology*. University of Aveiro (Portugal) – "merit-based grant".

2011–2014 **BSc** in *Biology*. University of Aveiro (Portugal).

Advanced training courses

2019 **18-hour course** in *Functional Morphology: Evolution of Form and Function from Individuals to Species*. CIBIO (Portugal).

2018 **24-hour course** in *Phylogenetic Comparative Methods for Studying Diversification and Phenotypic Evolution*. CIBIO (Portugal).

2018 **35-hour course** in *Theoretical Perspectives on Biodiversity and Biogeography*. CIBIO (Portugal).

2018 **30-hour course** in *Ecological Niche Modelling From Theory to Practice*. CIBIO (Portugal).

2018 **32-hour course** in *Modelling Spatial Eco-Evolutionary Dynamics and Species' Responses to Environmental Changes*. CIBIO (Portugal).

2015 **40-hour course** in *Methods in Evolutionary Ecology and Macroevolution*. University of Aveiro (Portugal).

2013 **6-hour online course** in *Computational Molecular Evolution*. Technical University of Denmark (Denmark).

PROFESSIONAL EXPERIENCE

2022–2023 **Research Fellow**, CESAM & Department of Biology, University of Aveiro (Portugal).

2018–2022 **Graduate (PhD) Fellow**, CESAM & Department of Biology, University of Aveiro (Portugal), Faculty of Sciences, University of Lisbon (Portugal).

2021 **Visiting Researcher**, Department of Natural Sciences and Mathematics, Pontificia Universidad Javeriana Cali (Colombia).

2019 **Visiting Researcher**, Department of Ecology and Evolutionary Biology, University of Arizona (USA).

2015–2016 **Graduate (MSc) Researcher**, CESAM & Department of Biology, University of Aveiro (Portugal).

2013–2014 **Undergraduate (BSc) Researcher**, CESAM & Department of Biology, University of Aveiro (Portugal).

FELLOWSHIPS AND GRANTS

2022–2023 **Research fellowship**, University of Aveiro (Portugal).
BI/UI88/8930/2022

2018–2022 **PhD fellowship**, Portuguese Foundation of Science and Technology.
PD/BD/135554/2018 & COVID/BD/152533/2022

AWARDS

2020 **Second-best short talk**, XVI National Meeting on Evolutionary Biology (Portugal). Amount: Registration fees for the Congress of the European Society for Evolutionary Biology 2021.

2019 **Second-best poster**, I PhD Meeting in Biology and Ecology of Global Change (Portugal).

2016 **Merit-based scholarship**, Direção-Geral do Ensino Superior (Portugal). Amount: €2,525.

2016 **Sports merit-based scholarship,** University of Aveiro (Portugal). Amount: €159.52.

RESEARCH FUNDING

2022 Phylogenies in Ecology and Evolution (FSP-P005332). Funder: Fulbright Specialist Program (USA). Amount: Specialist travel expenses and honorariums.

2021 Academic mobility between partner institutions. Funder: Asociación Universitaria Iberoamericana de Postgrado (AUIP). Amount: €1,200.

SCIENTIFIC PUBLICATIONS

Google Scholar profile (h-index: **3**, i10-index: **3**, total cites: **32**)

To be re-submitted

Stephens, PR, MJ Farell, TJ Davies, JL Gittleman, S Meiri, **MO Moreira**, U Roll & JJ Wiens. Global diversity patterns are explained by diversification rates at ancient, not shallow, timescales. ***Systematic Biology***.

In second revision

Moreira, MO, C Fonseca & D Rojas. Potential persistence of high-mountain lizards. ***Ecological Research***.

Moreira, MO, JJ Wiens, C Fonseca & D Rojas. Climatic-niche breadth, niche position, and speciation in lizards and snakes. ***Journal of Biogeography***.

*Peer reviewed journal articles (lead author: **3**)*

2022 **Moreira, MO**, C Fonseca & D Rojas. *ES-sim*-GLM, a multiple regression trait-dependent diversification approach. ***Evolutionary Biology***, 49(1), 92-101. DOI:10.1007/s11692-021-09557-7.

2021 **Moreira, MO**, Y-F Qu & JJ Wiens. Large-scale evolution of body temperatures in land vertebrates. ***Evolution Letters***, 5(5), 484-494. DOI:10.1002/evl3.249.

2021 **Moreira, MO**, C Fonseca & D Rojas. Parthenogenesis is self-destructive for scaled reptiles. ***Biology Letters***, 17(5), rsbl.2021.0006. DOI:10.1098/rsbl.2021.0006.

2018 Rojas, D, **M Moreira**, MJ Ramos Pereira, C Fonseca & LM Dávalos. Updated distribution maps for neotropical bats in the superfamily Noctilionoidea. ***Ecology***, 99(9), 2131. DOI:10.1002/ecy.2404.

INVITED TALKS

2022 *Macroecology & Macroevolution for solving ecological & evolutionary questions.* **UVS Talks**. Department of Biology, University of Aveiro (Portugal).

2021 *Large-scale evolution of body temperatures in land vertebrates.* **Webinar Seminario Permanente**, School of Engineering and Sciences, Pontificia Universidad Javeriana Cali (Colombia).

2021 *Parthenogenesis is self-destructive for scaled reptiles.* **Webinar Students Biology Program**, Department of Natural Sciences and Mathematics, Pontificia Universidad Javeriana Cali (Colombia).

CONTRIBUTED CONFERENCE PRESENTATIONS

Oral presentations

2021 **Research Summit PhD pitch** (Portugal). **Moreira, MO**, C Fonseca & D Rojas. *Climatic-niche dynamics and diversification in scaled reptiles (Lepidosaura: Squamata)*. DOI:10.48528/qdpf-e229. Oral speaker.

2020 **XVI National Meeting on Evolutionary Biology** (Portugal). **Moreira, MO**, C Fonseca & D Rojas. *Parthenogenesis is self-destructive for scaled reptiles*. Oral speaker. Awarded the second-best short talk.

2020 **Research Summit PhD pitch** (Portugal). **Moreira, MO**, C Fonseca & D Rojas. *Climatic-niche dynamics and diversification in scaled reptiles (Lepidosaura: Squamata)*. Oral speaker.

2019 **XV National Meeting on Evolutionary Biology** (Portugal). **Moreira, MO**, JJ Wiens, C. Fonseca & D Rojas. *Climatic-niche evolution helps drive speciation in squamate reptiles (lizards and snakes)*. Oral speaker.

Poster presentations

2021 **XVII National Meeting on Evolutionary Biology** (Portugal). **Moreira, MO**, Y-F Qu & JJ Wiens. *Large-scale evolution of body temperatures in land vertebrates*.

2019 **VII Simposio Colombiano de Biologia Evolutiva** (Colombia). **Moreira, MO**, JJ Wiens, C Fonseca & D Rojas. *ES-sim-GLM, an improved trait-dependent diversification approach.*

2019 **I PhD Meeting in Biology and Ecology of Global Changes** (Portugal). **Moreira, MO**, JJ Wiens, C Fonseca & D Rojas. *Climatic-niche evolution helps drive speciation in squamate reptiles (lizards and snakes)*. Awarded the second-best poster.

2014 **XIII Iberian Congress of Herpetology** (Portugal). **Moreira, MO**, R Pereira, F Gonçalves & S Marques. *Growth and enzymatic effects in Pelophylax perezi tadpoles exposed to Indomethacin.*

TEACHING EXPERIENCE

Graduate courses

2022 *Phylogenies in Ecology and Evolution*, **Advanced 35-hour training course**, University of Aveiro (Portugal).

STUDENT SUPERVISION

Supervisory committees

2023 Valentina Vélez Franco (BSc, Pontificia Universidad Javeriana Cali, Colombia).

PROFESSIONAL SERVICE

Scientific Agencies/Societies

2021–2023 Student evaluator for the Agency for Assessment and Accreditation of Higher Education (A3ES).

Department services

2019–2021 PhD students representative.

Referee services

2019 *Evolution.*

Organizing committee of conferences

2016 XII National Meeting on Evolutionary Biology, Portuguese Society of Evolutionary Biology, University of Aveiro (Portugal).

PUBLIC OUTREACH AND SOCIAL APPROPRIATION OF KNOWLEDGE

2021 **Interviewed** by Pedro Farias from the *University of Aveiro Newsletter* on rare reproduction method among snakes and lizards can lead to their extinction.

2021 **Contributor** at *Nature Ecology & Evolution Community* on virgin-births may compromise species lifespan in the long term: a tale from lizards and snakes.

COMPETENCIES

Languages

Mother Portuguese.

C1 English.

A1 Spanish.

Coding languages

R programming.

Digital tools

Phylogenetic inference; taxonomic and trait evolution; phylogenetic comparative methods; statistical analyses; species distribution modelling; geographic information systems; data mining; image editors.

Individual and social-emotional skills

Good teamwork and communication skills; organized, methodical and reliable, with a strong work ethic; problem-solving; self-awareness; self-management; social awareness.