

Research interests

Broadly—Understanding the effects of human activities and climate change on the preservation of Mediterranean oak woodlands, as well as the habitats they support, including shrublands and riparian habitats.

I am also excited about applying conceptual, mathematical, and statistical approaches to tackle ecological and biodiversity conservation questions.

Employment

2023 – ?

Auxiliary researcher

Centro de Investigação em Biodiversidade e Recursos Genéticos (CIBIO/Biopolis)

I am working in the project “NaturaConnect - Designing a resilient and coherent Trans-European network for nature and people” which is funded under the European Union’s Horizon Europe Research and Innovation Programme. I am involved in "Work Package 6 -Multi-scale nature connectivity and corridors design" and "Work Package 8 - Showcasing the implementation of TEN-N", and I will be working on "Task 6.1 - Connectivity knowledge exchange: identifying planning priorities and landscape elements for ecological corridors", "Task 6.2 - Functional connectivity for network design: form species and demographic traits to ecological corridor design" and "Task 8.4 - Case study national level - Portugal".

2019 – 2022

Auxiliary researcher

Centro de Investigação em Biodiversidade e Recursos Genéticos (CIBIO/Biopolis)

I worked as a contracted researcher on the project "RIVERSCALE - Ecological patterns and processes across scales: application to river networks (PTDC/BIA-ECO/28729/2017 – POCI-01-0145-FEDER-028729)" under the leadership of Dr. Luís Borda de Água and co-lead of Dr. Patrícia Rodríguez-González. My main focus was on analyzing how diversity patterns of riparian plant communities change across different scales using Bayesian methods.

2011– 2022

Data analyst and Biodiversity and Ecosystem services consultant

Associação Natureza Portugal/WWF Portugal

I was responsible for processing and analyzing biodiversity and ecosystem services data. My role involved overseeing the HABEaS Project (www.habeas-med.org), an online geographic information system that offers free access to biodiversity and ecosystem services data. I was also responsible for providing quantitative data to support ongoing biodiversity conservation projects and project funding proposals.

2016 – 2019

Postdoctoral fellow

Centro de Ecologia Aplicada “Prof. Baeta Neves”, Instituto Superior de Agronomia, Universidade de Lisboa

I conducted research that involved reviewing the existing literature on the effects of forest certification on biodiversity conservation. Additionally, I analyzed the factors that influence visitation rates in protected areas and the Natura 2000 network in Portugal. Lastly, I examined the factors that influence changes in forest cover in Mediterranean oak woodlands.

2008 – 2009

Research assistant

Faculdade de Ciências, Universidade de Lisboa

I worked as a research assistant on the project "Assessing the effectiveness of mitigation measures in reducing the negative impacts of highways," funded by BRISA "Auto-estradas de Portugal, SA." My main responsibilities included trapping and capturing stone martens (*Martes foina*) and utilizing radio-tracking techniques to monitor their movements in relation to a major highway in Southern Portugal. Additionally, I

played a crucial role in developing a geographic information system to analyze the collected data and conducted statistical analyses to assess habitat selection and movement patterns.

Education

- 2011–2016 **PhD, Forestry and Natural Resources, Instituto Superior de Agronomia, Univ. de Lisboa**
Advisors: Miguel N. Bugalho and Jorge Orestes Cerdeira
Thesis: [The Role of Forest Certification for the Conservation of Biodiversity and Sustainability of Cork Oak Woodlands](#)
- 2007–2008 **Master of Science, Conservation Biology, Faculdade de Ciências, Universidade de Lisboa**
Advisors: Margarida Santos-Reis
Thesis: Multi-Scale Analysis of Carnivores' Road Mortality Patterns in Highways: A Case Study with the Stone Marten and the Common Genet
- 2003–2007 **Degree in Environmental Biology, Faculdade de Ciências, Universidade de Lisboa**

Publications

- 2024 Acácio, Vanda, **Filipe S. Dias**, Mário Ferreira, Patricia M. Rodríguez-González, Hugo Matias, and Maria C. Caldeira. "Effects of Shrub Species Dominance and Diversity on Oak Seedling Survival in Mediterranean Woodlands: The Interplay of Abiotic Conditions and Plant Traits." *Forest Ecology and Management* 555: 121713. <https://doi.org/10.1016/j.foreco.2024.121713>
- 2022 **Dias, Filipe S.**, Michael Betancourt, Patricia María Rodríguez-González, and Luís Borda-de-Água. "BetaBayes—A Bayesian Approach for Comparing Ecological Communities." *Diversity* 14, no. 10 (October 2022): 858. <https://www.mdpi.com/1424-2818/14/10/858/html>
- 2022 Pabst, Rebecca, **Filipe S. Dias**, Luís Borda-de-Água, Patricia María Rodríguez-González, and César Capinha. "Assessing and Predicting the Distribution of Riparian Invasive Plants in Continental Portugal." *Frontiers in Ecology and Evolution* 10 (May 6, 2022): 875578. <https://doi.org/10.3389/fevo.2022.875578>
- 2021 **Dias, Filipe S.**, Michael Betancourt, Patricia María Rodríguez-González, and Luís Borda-de-Água. "Analysing the Distance Decay of Community Similarity in River Networks Using Bayesian Methods." *Scientific Reports* 11, no. 1 (November 4, 2021): 21660. <https://doi.org/10.1038/s41598-021-01149-x>
- 2021 Acácio, Vanda, **Filipe S. Dias**, Filipe X. Catry, Miguel N. Bugalho, and Francisco Moreira. "Canopy Cover Loss of Mediterranean Oak Woodlands: Long-Term Effects of Management and Climate." *Ecosystems*, March 16, 2021. <https://doi.org/10.1007/s10021-021-00617-9>
- 2020 Romeiras, Maria M, Mark Carine, Maria Cristina Duarte, Sílvia Catarino, Filipe S. Dias, and Luís Borda-de-Água. "Bayesian Methods to Analyze Historical Collections in Time and Space: A Case Study Using Cabo Verde Endemic Flora." *Frontiers in Plant Science* 11, no. 278 (2020) <https://doi.org/10.3389/fpls.2020.00278>.
- 2019 Dias, Filipe S., José F. C. Wenceslau, Tiago A. Marques, and David L. Miller. "Density and Distribution of Western Chimpanzees around a Bauxite Deposit in the Boé Sector, Guinea-Bissau." *American Journal of Primatology* 81, no. 9 (2019): e23047. <https://doi.org/10.1002/ajp.23047>
- 2019 Arsénio, Pedro, Patricia María Rodríguez-González, Ivan Bernez, Filipe S. Dias, Miguel Nunes Bugalho, and Simon Dufour. "Riparian Vegetation Restoration: Does Social Perception Reflect Ecological Value?: Social Perception of Riparian Vegetation Restoration." *River Research and Applications*, August 20, 2019. <https://doi.org/10.1002/rra.3514>
- 2017 Acácio, Vanda, Filipe S. Dias, Filipe X. Catry, Marta Rocha, and Francisco Moreira. "Landscape Dynamics in Mediterranean Oak Forests under Global Change: Understanding the Role of Anthropogenic and Environmental Drivers across Forest Types." *Global Change Biology* 23, no. 3 (March 1, 2017): 1199–1217. <https://doi.org/10.1111/gcb.13487>
- 2016 Dias, Filipe S., David L. Miller, Tiago A. Marques, Joana Marcelino, Maria C. Caldeira, J. Orestes Cerdeira, and Miguel N. Bugalho. "Conservation Zones Promote Oak Regeneration and Shrub Diversity in Certified Mediterranean Oak Woodlands." *Biological Conservation* 195 (March 2016): 226–34. <https://doi.org/10.1016/j.biocon.2016.01.009>
- 2015 Dias, Filipe S., M N Bugalho, B. Briñas, and J. O. Cerdeira. "Using the High Conservation Value Forest

- Concept and Pareto Optimization to Identify Areas Maximizing Biodiversity and Ecosystem Services in Cork Oak Landscapes.” Agroforestry Systems, April 19, 2015. <https://doi.org/10.1007/s10457-015-9814-x>
- 2015 Dias, Filipe S., Miguel N. Bugalho, Patricia M. Rodríguez-González, António Albuquerque, and J. Orestes Cerdeira. “Effects of Forest Certification on the Ecological Condition of Mediterranean Streams.” Edited by Angela Strecker. Journal of Applied Ecology 52, no. 1 (February 2015): 190–98. <https://doi.org/10.1111/1365-2664.12358>
- 2013 Dias, Filipe S., Miguel N. Bugalho, J. Orestes Cerdeira, and M. João Martins. “Is Forest Certification Targeting Areas of High Biodiversity in Cork Oak Savannas?” Biodiversity and Conservation 22 (November 2013): 93–112. <https://doi.org/10.1007/s10531-012-0401-4>

Reports

- 2017 Bugalho, Miguel N., **Filipe S. Dias**, and Rui Barreira. “Incêndios Rurais Em Portugal: Até Quando Deixaremos a Paisagem Arder?” Lisboa, Portugal: WWF Mediterrâneo (WWF MED)/Centro de Ecologia Aplicada Prof. Baeta Neves do Instituto Superior de Agronomia (CEABN/ISA), 2017. [Link](#)
- 2010 Branco, Orlando, Miguel Nuno Bugalho, Luís Neves Silva, Rui Barreira, Pedro Vaz, and **Filipe S. Dias**. “Hotspot Areas for Biodiversity and Ecosystem Services in Montado.” Lisbon: WWF Mediterranean – Portugal/Centre for Applied Ecology Prof. Baeta Neves (CEABN), 2010. [Link](#)

Peer review work

I am a Review Editor for Frontiers in Forests and Global Change and have also reviewed papers for Biological Conservation, International Forestry Review and Forestry.

Invited talks and conferences

Invited talks

- 2023 **How to Manage and Process Big Datasets in R - an Example with eBird Data**
Instituto Superior de Agronomia, CIBIO’s Journal Club, March 23th. [Link](#)
- 2014 **Como utilizar o software R através do QGIS**
University of Évora, [Link](#)
- 2012 **HABEaS WebGIS: Practical applications**
Course “Evaluating ecosystem services for decision-making”, Natural Capital Project, Instituto Superior Técnico

Conferences

- 2023 **A unified approach to the species-area-relationship using statistics of extremes**
GfÖ Annual Meeting 2023, Leipzig
Borda-de-Água, L., Quoss, L., Dias, F.S., Neves, M., Hubbell, S.P., Pereira, H.M.
- 2023 **Use of remote sensing to evaluate effects of postfire emergency stabilization on oak forests recovery**
8th International Wildfire Conference, Porto, Portugal
Lopes, L.F., Dias, F.S., Fernandes, P., Acácio, V.
- 2021 **Analysing the distance decay of community similarity in river networks using Bayesian methods.**
20^o Encontro Nacional de Ecologia, Escola Superior Agrária Ponte de Lima, Portugal
Filipe S. Dias, Michael Betancourt, Patricia María Rodríguez-González, and Luís Borda-de-Água

- 2019 **Long-term dynamics of canopy cover in Mediterranean evergreen oak woodlands reveals a degradation trend determined by management and climate**
15th EEF - European Ecological Federation Congress, Lisbon, Portugal
Acácio, V., Dias, F.S., Catry, F.X., Bugalho, M., Moreira F.
- 2016 **Landscape dynamics in Mediterranean oak forests under global change: understanding the role of anthropogenic and environmental drivers across forest types**
Seminário “Ecologia, Florestas e Conservação” do Centro de Estudos Florestais e CEABN. Instituto Superior de Agronomia, Lisboa, Portugal
Acácio, V., Dias, F.S., Catry, F.X., Rocha, M., Moreira, F.
- 2016 **Landscape dynamics in Mediterranean oak forests under global change: understanding the role of anthropogenic and environmental drivers across species**
World Congress Silvo-Pastoral Systems 2016, University of Évora, Évora, Portugal
Acácio, V., Dias, F.S., Catry, F.X., Rocha, M., Moreira, F., 2016
- 2009 **Do highways work as barriers for stone marten movements? Yes, and more than what may look**
IX Jornadas de la SECEM. 5-8 December 2009, Bilbao, Spain
Ascensão F, Tracey JA, Costa M, Pinheiro P, Clevenger A, Grilo, C., Matos, H.M., Dias, F.S., Santos-Reis M.
- 2009 **Stone martens and highway interactions: home range configurations and crossing movements**
27th Mustelid Colloquium, 18-20 November 2009, Lisbon, Portugal
Pinheiro P, Costa M., Ascensão F., Grilo C., Matos H., Dias, F.S., Reto D. & M. Santos-Reis
- 2009 **Multi-scale analysis of road mortality patterns: a case study with the stone marten and the common genet.**
IENE-Infra Eco Network Seminar “Connecting Wildlife and People, Évora
Dias, F. S., Grilo, Clara; Ascensão, Fernando; Santos-Reis, Margarida.

Advising

Past Master students

- 2014 **Berta Briñas García, Erasmus Mundus, Instituto Superior de Agronomia**
Thesis: Mapping and identification of hotspots for biodiversity and ecosystem services in cork oak woodlands in Portugal
With Miguel N. Bugalho

Teaching experience

- 2011 **Biodiversidade Ambiente e Conservação, Instituto Superior de Agronomia**
Assistant lecturer
With Jorge Orestes Cerdeira, Diogo Alagador, Tiago Monteiro-Henriques
Students: ~25

Skills

Statistical analysis – I have extensive experience with both frequentist and Bayesian methods using Stan's probabilistic programming language (<https://mc-stan.org/>).

Data wrangling - I have been using R for data wrangling for 15+ years and I am comfortable both its native syntax and the tidyverse ecosystem of packages (<https://www.tidyverse.org/>).

Geographic Information Systems – I have extensive experience in processing and analyzing geographical data using free and open-source software like QGIS, GRASS GIS, GDAL, and PostGIS.

Fieldwork experience - I have experience working with mammal carnivores, including trapping and radio tracking. I have also conducted vegetation surveys to assess tree regeneration, shrub cover, and forest structure. Additionally, I am skilled in assessing the ecological condition of streams using the Stream Visual Assessment Protocol (SVAP). Furthermore, I have an intermediate level of expertise in birding.

Scientific communication and dissemination – I have experience in effectively communicating scientific research to non-scientific audiences and writing non-technical reports. I am used to working in multidisciplinary environments and I have a lot experience with engaging with individuals from diverse backgrounds.