

## **Rui Miguel dos Santos Mendes Carvalho**

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### **Qualifications**

#### *Phd in Interdisciplinary Landscape Management, 2023*

This doctoral program trained me for the ability construct multidisciplinary solutions in a scientifically validated approach. This can be used to design and evaluate public policies, manage project cycles and create management instruments for public and private entities.

Final score: Approved with distinction.

Universidade dos Açores, Angra do Heroísmo, Portugal

#### *B.S. in Biology, 2006.*

Final score: 14/20

Universidade de Évora, Évora, Portugal

### **Experience**

#### **Current position**

##### *Grant Holder*

04/2022 to 12/2023

Unidade de Vida Selvagem, CESAM, Universidade de Aveiro

Research grant holder in the COA/BRB/0063/2019 - “Ecological challenges and opportunities of trophic rewilding in Côa Valley”. My responsibilities were to plan and make field collections, sample sorting and performing the data analysis related to the main biological target groups of the project.

##### *Grant Holder*

10/2021 to 03/2022

Ce3C, Faculdade de Ciências da Universidade de Lisboa, Lisboa

Research grant holder in the FCT project ref. PTDC/BIA-CBI/29672/2017 – “ECOASSESS - A biodiversity and ECOlogical ASSESSment of soil Fauna of Gorongosa National Park (Mozambique)”. My responsibilities were to aid with Pitfall sorting and performing the data analysis related to the main biological target groups of the project. I led the creation of GBIF-compatible databases from the identified specimens and its conversion into data papers. I am now working on the analysis for two papers that aim to assess how the ecological and environmental factors in Gorongosa contribute to explain the spatial and temporal patterns of Alpha and Beta diversity of Carabidae, for both taxonomical and functional data.

##### *Doctorate Scholarship*

07/2016 to 07/2021

Azorean Biodiversity Group, Azores University, Terceira

Doctoral student in the Interdisciplinary Landscape Management doctoral program. The thesis is named “An integrative approach to monitor and manage impacts of recreational trails on Azorean native ecosystems”. I contributed to understanding how recreational trails impact the Azorean native forest ecosystems, and what management actions are more effective at minimizing impacts, under the Azorean Regional Government context.

Grant Holder

07/2016 to 10/2016

Azorean Biodiversity Group, Azores University, Terceira

Research grant holder in the FCT project ref. PTDC/BIABIC/0054/2014 – MACDIV - Macaronesian Islands as testing ground to assess biodiversity drivers at multiple scales. I was responsible for obtaining field data about the Araneae and Coleoptera diversity on Natural forests in several islands of Macaronesia by using the COBRA protocol. I was then responsible for sorting Pitfall, Aerial, Ground and Beating samples, and posteriorly aiding in identification of Coleoptera and Araneae species with the aid of an experienced taxonomist, and the creation of a database with the retrieved information.

Rural Tourism Management.

06/2015 to 05/2016

Casa do Tio João, Caldeira de Santo Cristo, S. Jorge, Azores

Co-management of a rural tourism house. My main responsibilities were customer relationship management, cooking, logistics and infrastructure improvement.

Grant Holder

01/2013 to 05/2015

Azorean Biodiversity Group, Azores University, Terceira

Research grant holder in the FCT project NETBIOME/0003/2011, called “Understanding biodiversity in tropical and subtropical dynamics islands of an aid to science-based conservation action”. I was responsible for the fieldwork required to collect arthropod samples, and sorting samples (Pitfall, Aerial, Beating and Ground) in laboratory into their main taxonomic groups, including Araneae and Coleoptera. Creation of a morphospecies collection of Diptera from the Azorean native forest. Participation in fieldwork with complementary objectives to the project, including support for taxonomy and plant ecology specialists.

Grant Holder

08/2011 to 07/2012

CIEMAR, Évora University, Sines

Research grant under the project HINT-project Impacts of climate change on European rocky intertidal ecosystems: coupling of ecological, physiological and genetic approaches (PTDC / MAR / 099391/2008). My work involved a preliminary study on the abundance and distribution of the limpet *Siphonaria pectinata* in Sines region (SW Portugal) and the study of the thermal environment of several beaches and microhabitats of this region.

Hired lecturer for Touristic Animation discipline, B.S. in Hotel Management

02/2009 to 06/2010

Instituto Piaget, Santo André

Design of the discipline contents for the year 2009/2010, and its lecturing.

Tourism Management Technician

08/2008 to 07/2012

Naturasines Lda, Sines

Client relationship manager and human resources management in a microcompany.

Development of tourist animation projects for large enterprises (TroiaResort, ZMAR).

Lead organizer of corporate events of up to 200 participants (GALP; PS).

Leader of a project for the creation and homologation and marketing of pedestrian trails within Protected Areas in Litoral Alentejo region.

Creator of an environmental education project. Co-creation of contents and co-organization of activities.

## Supervisory Experience

Supervised 4 students (2 direct and 2 indirectly) of the Piaget Institute's Tourism technical course, within the internships of these students in Naturasines Lda. 2010 to 2011

## Professional Outreach

Conference, XVI Portuguese Conference in Artificial Intelligence 2013  
Co-organizer, Angra do Heroísmo

Congress, I Congresso Sustentabilidades e Ruralidades – O montado de Azinho  
2007  
Participation in organization and secretariat, CEAI, Évora

## Grants and Awards

11/2019 to 04/2020 - Grant winner of ERASMUS Exchange mobility program to Helsinki, Finland

04/2019 – Winner of the first prize for FameLab national finals, representing Portugal in the international final. The topic presented was how to transform fear of spiders into curiosity.

23/11/2018 – Winner of the first prize for the best presentation of the “Fala Ciência? – Comunicar Ciência nos Açores” scientific communication contest, with the subject “Aranhas – já temos idade para deixar de ter medo delas?”. As consequence, access to the FameLab national semifinals was granted.

2016 – Grant winner of COST action “Alien Challenge”, At the Tavolara Marine Protected Area, Olbia, Sardenia

2007 – Grant winner of ERASMUS Exchange intensive program "Bioéthique en Sciences de la vie et de l'environnement", at the Universidade Stinte Agricole si medicina Veterinara a Banatului, Timisoara, Roménia.

02/2006 to 18/2016- Grant winner of ERASMUS Exchange mobility program to Innsbruck, Áustria.

## Publications

### Refereed Journals

Silva, Pedro & Carvalho, Rui & Boieiro, Mário & Sousa, Jose Paulo & Serrano, Artur. (2023). Long droughts decrease tiger- and ground-beetle' beta diversity and community body size in savannas of the Gorongosa National Park (Mozambique). *Journal of Insect Conservation*. 27. 10.1007/s10841-023-00509-4.

Serrano, Artur & Baptista, Martim & Carvalho, Rui & Boieiro, Mário & Mendes, Sara & Bartz, Marie & Timóteo, Sérgio & Azevedo-Pereira, Henrique & Aguiar, Carlos & Silva, António & Alves, Joana & Briones, Maria & Borges, Paulo & Sousa, Jose Paulo & Silva, Pedro. (2023). Inventory of tiger- and ground-beetles (Coleoptera, Caraboidea, Cicindelidae and Carabidae) in two sampling seasons of the Gorongosa National Park, Mozambique. *Biodiversity Data Journal*. 11. 10.3897/BDJ.11.e101280.

Malumbres-Olarte, J., Rigal, F., Girardello, M., Cardoso, P., Crespo, L.C. , Amorim, I.R., Arnedo, M., Boieiro, M., Carvalho, J.C., Carvalho, R., Gabriel, R., Lamelas-Lopez, L., López, H., Paulo, O.S., Pereira, F., Pérez Delgado, A.J., Rego, C., Romeiras, M., Ros-Prieto, A., Oromí, P., Vieira, A., Emerson, B.C. & Borges, P.A.V. (2021) Habitat filtering and inferred dispersal ability condition across-scale species turnover and rarity in Macaronesian island spider communities. *Journal of Biogeography*, 48(12), 3131-3144. DOI:10.1111/jbi.14271 (IF2020 4,324; Q1 Ecology)

Carvalho, R., Cardoso, P., Gil, A., Ferreira, M.T., Ramos, C., Lamelas-Lopez, L., Pereira, F., Malumbres-Olarte, J., Ros-Prieto, A., Boieiro, M. & Borges, P.A.V. (2021) Standardised inventories of spiders (Arachnida, Araneae) on

touristic trails of the native forests of the Azores (Portugal). *Biodiversity Data Journal*, 9, 1-15. DOI:10.3897/BDJ.9.e62886 (IF2020 1,225; Q3 Biodiversity Conservation)

Malumbres-Olarte, J., Boieiro, M., Cardoso, P., Carvalho, R., Crespo, L.C., Gabriel, R., Hernández, N.M., Paulo, O.S., Pereira, F., Rego, C., Ros-Prieto, A., Silva, I., Vieira, A., Rigal, F. & Borges, P.A.V. (2020) Standardised inventories of spiders (Arachnida, Araneae) of Macaronesia II: the native forests and dry habitats of Madeira archipelago (Madeira and Porto Santo islands). *Biodiversity Data Journal*, 8, e47502. DOI:10.3897/BDJ.8.e47502 (IF2020 1,225; Q3 Biodiversity Conservation)

Malumbres-Olarte, J., Cardoso, P., Crespo, L., Gabriel, R., Pereira, F., Carvalho, R., Rego, C., Nunes, R., Ferreira, M.T., Amorim, I.R., Rigal, F. & Borges, P.A.V. (2019) Standardised inventories of spiders (Arachnida, Araneae) of Macaronesia I: the native forests of the Azores (Pico and Terceira islands). *Biodiversity Data Journal*, 7, e32625. DOI:10.3897/BDJ.7.e32625 (IF2019 1,331; Q3 Biodiversity Conservation)

Matthews, T., Sadler, J.P., Carvalho, R., Nunes, R. & Borges, P.A.V. (2019) Differential turnover rates and temporal beta-diversity patterns of native and non-native arthropod species in a fragmented native forest landscape. *Ecography*, 42, 45-54. DOI:10.1111/ecog.03812 (IF2019 6,455; Q1 Ecology)

Borges, P.A.V., Cardoso, P., Fattorini, S., Rigal, F., Matthews, T.J., Di Biase, L., Amorim, I.R., Florencio, M., Borda-deÁgua, L., Rego, C., Pereira, F., Nunes, R., Carvalho, R., Ferreira, M.T., Lopez, H., Pérez Delgado, A.J., Otto, R., Fernández Lugo, S., Nascimento, L. de, Caujapé-Castells, J., Casquet, J., Danflous, S., Fournel, J., Sadeyen, A.M., Elias, R.B., Fernández-Palacios, J.M., Oromí, P., Thébaud, C., Strasberg, D. & Emerson, B.C. (2018) Community structure of woody plants on islands along a bioclimatic gradient. *Frontiers of Biogeography*, 10(3-4), 1-31. DOI:10.21425/F5FBG40295.

Borges, P.A.V., Pimentel, R., Carvalho, R., Nunes, R., Wallon, S. & Ros Prieto, A. (2017) Seasonal dynamics of arthropods in the humid native forests of Terceira Island (Azores). *Arquipélago Life and Marine Sciences*, 34, 105-122.

Carvalho, J.C., Cardoso, P., Crespo, L.C., Henriques, S., Carvalho, R. & Gomes, P. (2011). Biogeographic patterns of spiders in coastal dunes along a gradient of mediterraneity. *Biodiversity and Conservation*, 20: 873-894

Carvalho, José C., Cardoso, Pedro, Crespo, Luís C., Henriques, Sérgio, Carvalho, Rui and Gomes, Pedro. 2012. Determinants of spider species richness in coastal dunes along a gradient of mediterraneity. *Insect Conservation and Diversity*, 5(2): 127-137. doi:10.1111/j.1752-4598.2011.00139.x

Carvalho, J.C., Cardoso, P., Crespo, L.C., Henriques, S., Carvalho, R. & Gomes, P. (2011) Determinants of beta diversity of spiders in coastal dunes along a gradient of mediterraneity. *Diversity and Distributions*, 17: 225-234. - Cardoso, P., Crespo, L.C., Carvalho, R., Rufino, A.C. & Henriques, S.S. (2009). Ad-hoc vs. standardized and optimized arthropod diversity sampling. *Diversity*, 1: 36-51.

Cardoso, P., Henriques, S.S., Gaspar, C., Crespo, L.C., Carvalho, R., Schmidt, J.B., Sousa, P. & Szüts, T. (2007). Species richness and composition assessment of spiders in a Mediterranean scrubland. *Journal of Insect Conservation*, doi:10.1007/s10841-007-9116-3

Cardoso, P., Scharff, N., Gaspar, C., Henriques, S., Carvalho, R., Castro, P., Schmidt, J., Silva, I., Sztüts, T., Castro, A., Crespo, L. Rapid biodiversity assessment of spiders (Araneae) using semi-quantitative sampling: a case study in a Mediterranean forest. *Insect Conservation and Diversity*, doi: 10.1111/j. 1752- 4598.2007.00008.

Crespo, L.C., Cardoso, P., Carvalho, R., Henriques, S.S., Rufino, A.C. (subm.). Spiders (Arachnida: Araneae) from the Paúl de Arzila Natural Reserve (Portugal). *Boletín de la Sociedad Entomológica Aragonesa*

## **Book chapters**

Valente, A., Carvalho, R., (2023). “You should be old enough not to be afraid of spiders”. Theatre About Science. Theory and Practice, edited by Montenegro, Mario & Oliveira, Fernando & Girão, Teresa & Amaral, Sara & Moreira, Francisca. (2023).

## **Unrefereed Conference Proceedings**

Cardoso, P., Carvalho, R., Carreira, J., Batista, J. 2013. Automation of Species Identification and Description. Advances in Artificial Intelligence, 16th Portuguese Conference on Artificial Intelligence. EPIA 2013. Angra do Heroísmo, September 9 – 12. Local Proceedings

## **Communications**

- Carvalho, R, Valente, A. (October 2019) Aranhas – Ainda temos idade para ter medo delas?. Poster presentation at SciCom - Congresso de Comunicação de Ciência, em Figueira de Castelo Rodrigo.
- Carvalho, R., Borges, P.A.V. (June 2013) Ciência e Turismo de Natureza nos Açores. Seminar Ciência nos Açores- Que Futuro?
- Carvalho, R., (April 2006) Sexual selection and Mating Systems in Two Steatoda Species (Aranae, Theridiidae). Oral presentation on Artropoden Seminar, Innsbruck Universitat, Innsbruck,
- Carvalho, R. (September 2008) "Human Nature and Human Rights". Oral presentation on International Life Sciences Student's Conference, Warsaw

## **Relevant skills and competences**

- Proven efficiency in captivating the public and colleagues about science topics
- Some experience in creating and managing teams
- Complete fluency in English, written and spoken.
- Intermediate knowledge of Spanish, basic knowledge of French and German
- Taxonomic capacities for identification in Azorean Diptera and Portuguese Araneae, mostly to family level • Experience in behavioural observation of spiders
- Intermediate skills in using R for performing ecological analysis using Alpha and Beta diversity, GLMM, and both taxonomic and functional diversity analysis.

## **Complementary formations**

- Introductory Applied Methods in Community Ecology and Functional Ecology, 2017
- R without fear: an R course in Evolutionary Ecology, 2017
- Introduction to R for Biologists, by Cátedra Rui Nabeiro, 2011
- Professional certification in Human Resource Management, by Sines Tecnopolo, 2010
- Professional Certificate of Pedagogical Aptitudes, by Sines Tecnopolo, 2010