

## CURRICULUM VITAE

Regina Lopes da Cunha

### PERSONAL DETAILS

**Name:** Regina L. Cunha

**Date of birth:** 26-10-1967

**Nationality:** Portuguese

**Institutional Address:** CCMAR, University of Algarve, Campus de Gambelas, 8005-139 Faro, Portugal

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### Main Scientific Areas of Research

Evolutionary Biology - Conservation - Phylogenomics - Phylogeography

### Academic Degrees

**2002 - 2008** – Ph.D. “Tempo and mode of evolution of the genus *Conus* (Gastropoda: Neogastropoda) in the Cape Verde Islands”, Universidad Autonoma de Madrid, Spain. Grant: Portuguese National Science Foundation /BD/9209/2002. Subject: Evolutionary Biology. Host institution: Museo Nacional Ciencias Naturales. Supervisor: Dr. Rafael Zardoya. Classification: *Summa cum Laude*.

**1996 - 2001** – Graduation in *Marine Biology*, University of Algarve, Portugal, with the final classification of 16 (maximum=20) and final practice work in the area of Molecular Phylogeny of Pleuronectiformes with the classification of 20 (maximum=20).

**1985 -1989** – Bachelor of Science (Engineer Agronomist - *Zootechny*), University of Coimbra, Portugal, with the final classification of 15/20 and final practice work in “The importance of the intermediate host *Limnaea truncatula* in the management of fasciolosis in sheep maintained under field conditions” with the classification of 18 (maximum=20).

### Professional Experience

**24/10/2018 to present.** Researcher - Contract DL 57/2016/CP1361/CT0013 University of Algarve, Portugal.

**01/02/2016 to 31/01/2019.** Postdoctoral fellow - Fundação para a Ciência e Tecnologia (ref. SFRH/BPD/109685/2015), (CCMAR, University of Algarve, Portugal).

**01/02/2010 to 31/01/2016.** Postdoctoral fellow - Fundação para a Ciência e Tecnologia (ref. SFRH/BPD/65830/2009), (CCMAR, University of Algarve, Portugal).

**01/02/2009 to 31/01/2010.** Postdoctoral fellow (ref. CCMAR/BPD/0043/2008) in the European project ESF - EUROCORES 1390 -"DEECON - Unraveling population connectivity for sustainable fisheries in the Deep Sea", (CCMAR, University of Algarve, Portugal).

### Participation in projects

**2021-2024.** Participation in the project ref: Ref. EXPL/BIA-BMA/0682/2021 funded by FCT (Portuguese National Science Foundation) “microCOOL: microbial endosymbiotic thermal buffer against heatwaves. Budget: 49.971,79€. Team: CCMAR; Rhodes University, South Africa.

**2021-2024.** Participation in the project GenClim, Biodiversity on the run: evolutionary and socioeconomic consequences of shifting distribution ranges in commercially exploited marine fishes. Consortium budget : 670000 EUR. Team: Technical University of Denmark; Stellenbosch University, South Africa; CCMAR, Portugal; University of Kiel, Germany; ISPA, Portugal.

- 2019-2022.** Participation in the project “CoGeDiv - Comparative Genomics of species Divergence for linking speciation to species life-history traits. Institut des Sciences de l'Évolution de Montpellier (ISEM) - Université de Montpellier. France.
- 2019-2021.** Participation in the project as a consultant “Evolutionary history of *Fissurella* species (Mollusca, Vetigastropoda): an integrative approach to unravel their diversity, origin and diversification in South America”. Project ref. 1090670-FONDECYT (Fondo Nacional de Desarrollo Científico y Tecnológico), Initiation into Research 2018. Chile
- 2016-2018.** Participation in the project “Comparative and adaptive genomics for the study of Macaronesian island radiations – MACAGEN”. MINECO, Spain.
- 2013-2015.** Participation in the project “Understanding the molecular basis of island radiations of the Macaronesia through comparative transcriptomics – ChemoConRad”. CGL2013-45211-C2-2-P. MINECO (Ministerio de Economía y Competitividad - Spain).
- 2009-2011.** Participation in the project SHIFTING. Marine phylogeographic structuring during climate change: the signature of leading and rear edge of range shifting populations. MarinERA 189570: Facilitating the coordination of national and regional marine RTD programs in Europe.
- 2008-2010.** Participation in the project HERCULES. Gene flow across the Pillars of Hercules: the role of North Africa in the postglacial recolonization of Europe. PTDC/BIA-BDE/74349/2006.
- 2003/2004.** Participation in the project “Discerning ecological and historical influences on the diversity of dung beetle assemblages in two Palaeartic steppe regions” funded by Ministerio de Educación y Ciencia, Spain, CGL2007-60954.
- 2001/2002.** Participation in the project funded by the FCT (Portuguese National Science Foundation) “Contribution to the knowledge of the phylogeny of flat fishes (Pleuronectiformes, Teleostei)” (POCTI / 1999 / BSE / 34891).
- 2000/2001.** Participation in the project Fisheries & population structure of *Scomber* spp.in the Mediterranean and S. Iberian Atlantic waters” STUDIES 99/034 (FCMA, University of Algarve).

## Awards

**2008** - The Malacological Society of London's Annual Award.

## Experience as scientific advisor

- 2022** | Alexander Vanhaelen. MSc. Biomonitoring vertebrate communities in the northwest Atlantic using eDNA metabarcoding. Co-supervision with Rita Castilho.
- 2021** | Adam Galatoulas. MSc. University of Algarve. Subject “Origin of stranded loggerhead marine turtles (*Caretta caretta*) along the Portuguese coast”. To complete in 2021.
- 2019** | Jamie Maxwell. Master. University of Essex. Subject “Investigating the genetic and morphological variability of deep-sea Polynoidae found in association with Alyconacean corals across the Mid- Atlantic”. Co-supervision with Dr Michelle Taylor.
- 2017** | Teófilo Morim. Master. Universidade do Algarve. Subject “The invasive pathway of the mummichog (*Fundulus heteroclitus*) in Iberia.” Co-supervision with Rita Castilho. Completed in 2019.
- 2014** | Cláudia Patrão. PhD. Universidade do Algarve. Subject “Ecological niche modeling, cyto genetics and phylogeography of the genera *Geomalacus* and *Letourmeuxia* (Gastropoda, Pulmonata) from the Iberian-Moroccan region. Co-supervision with Rita Castilho.
- 2014** | Gonçalo Silva. PhD. Universidade do Algarve. Subject “Study of genetic gradients among populations of Atlantic anchovy (*Engraulis encrasicolus* L.) located along marine ecotones”. Co-supervision with Rita Castilho.
- 2011** | Gregory Neils Puncher. Master. Universidade do Algarve. Subject “Assessment of seafood sustainability and traceability within the seafood industry: Developing a Sustainable Seafood Policy for the University of the Algarve”. Co-supervision with

Rita Castilho.

- 2010** | Márcio Coelho. Master. Universidade do Algarve. Subject "Phylogeny of gorgonian species from the genus *Eunicella* and *Leptogorgia* of the East Atlantic and Mediterranean Sea". Co-supervision with Rita Castilho.
- 2009** | Evandro Lopes. Master. Universidade do Algarve. Subject "Evolutionary patterns of *Brachidontes puniceus* (Bivalvia: Mollusca)". Co-supervision with Rita Castilho.
- 2008** – Davide Reis. Master. Universidade do Algarve. Subject "Biogeography of the Fire Salamander (*Salamandra salamandra*, Linnaeus 1758) in Portugal". Co-supervision with Rita Castilho.

### Participation in academic juris

- 2022** | MSc. - as main examiner. University of Algarve. Aljosa Gracner. "Assessing fouling communities in the Northern Adriatic trough photo-analysis of ARMS plates".
- 2020** | PhD. - as main examiner. ISPA, Instituto Universitário de Ciências Psicológicas, Sociais e da Vida. Ana Maria de Azambuja Farinha da Conceição Pereira Crespo. "Evolução dos cuidados parentais e da parentalidade em peixes ósseos da subclasse actinopterygii: Uma abordagem filogenética".
- 2020** | MSc. - as main examiner. University of Algarve. Vítor Hugo Ferreira Dias. "Another brick in the restoration of gorgonians: Assessment of coral bycatch in artisanal Fisheries and its potential for restoration actions".
- 2019** | MSc. - as main supervisor. University of Algarve. Jamie Maxwell. "Investigating the genetic and morphological variability of deep-sea Polynoidae found in association with Alyconacean corals across the Mid- Atlantic".
- 2019** | MSc. - as main examiner. University of Algarve. Sara Maria da Costa Pereira. "Thermotolerance experiments and transplantation procedures of four gorgonian species from the South of Portugal, Algarve".

### Publications

- 30. Cunha RL, Faleh AB, Francisco S, Corona LS, Dia M, Šanda R, Vukic J, Castilho R, Robalo JI (2022)** Cryptic diversity in the marine realm: phylogeographic patterns in the wild bogue along its distribution range. *Scientific Reports* (in prep.)
- 29. Cunha RL, Nicastro KR, Zardi GI, Madeira C, McQuaid CD, Cox CJ and Castilho R (2022)** Comparative mitogenomic analyses and gene rearrangements reject the alleged polyphyly of a bivalve genus. *PeerJ* 10:e13953 [10.7717/peerj.13953](https://doi.org/10.7717/peerj.13953) (IF - 2.984).
- 28. Cunha RL, Costa A, Godinho F, Santos C, Castilho R** Hidden diversity of the olive ridley sea turtle (*Lepidochelys olivacea*) from Angola, West Africa (2021) *Conservation Genetics* 23:429-433. doi: <https://doi.org/10.1007/s10592-021-01422-6> (IF- 2.040).
- 27. Cunha RL, Sala J, Machado M, Boix D, Madeira C, Madeira P, Cristo M, Cancela da Fonseca L and Castilho R** Distinctive genetic signatures of two fairy shrimp species with overlapping ranges in Iberian temporary ponds (2021) *Freshwater Biology* 66 (9):1680-1697 doi: <https://doi.org/10.1111/fwb.13782> (IF - 3.809).
- 26. Egger C, Neusser TP, Norenburg J, Leasi F, Buge B, Vannozzi A, Cunha RL, Cox CJ, Jöger KM** Uncovering the shell game with barcodes: diversity of meiofaunal Caecidae snails (Truncatelloidea, Caenogastropoda) from Central America (2020) *ZooKeys* 968:1-42 <https://doi.org/10.3897/zookeys.968.52986> (IF - 1.143).
- 25. Cunha RL, Forsman ZH, Belderok R, Knapp ISS, Castilho R, Toonen RJ (2019)** Rare coral under the genomic microscope: timing and relationships among Hawaiian *Montipora* *BMC Evolutionary Biology*, 19,153 <https://doi.org/10.1186/s12862-019-1476-2> (IF – 3.252).
- 24. Morim T, Bigg GR, Madeira PM, Palma J, Duvernell DD, Gisbert E, Cunha RL, Castilho R (2018)** Invasive genetics of the mummichog (*Fundulus heteroclitus*): recent anthropogenic introduction in Iberia. *PeerJ* 7:e6155 <https://doi.org/10.7717/peerj.6155> (IF - 2.380)
- 23. Coscia I, Castilho R, Massa-Gallucci A, Sacchi C, Cunha RL, Stefanni S, Helyar SJ, Knutsen H, and Mariani S (2018)** Genetic homogeneity in the deep-sea grenadier *Macrourus berglax* across the North Atlantic Ocean. *Deep Sea Research Part I: Oceanographic Research Papers* 132: 60-67. <https://doi.org/10.1016/j.dsr.2017.12.001>(IF - 2.848).

22. **Cunha RL**, Patrão C and Castilho R. (2017) Different diversity-dependent declines in speciation rate unbalances species richness in terrestrial slugs. *Scientific Reports* 7, 16198. doi:10.1038/s41598-017-16417-y. (IF – 4.259). <http://rdcu.be/A80t>
21. Silva G, **Cunha RL**, Ramos AA and Castilho R (2017) Wandering behaviour prevents inter and intra oceanic speciation in a coastal pelagic fish. *Scientific Reports*, 7: 2893 doi:10.1038/s41598-017-02945-0. IF – 4.259.
20. Castilho R, **Cunha RL**, Faria C, Velasco E, Robalo JI. (2017) Asymmetrical dispersal and putative isolation-by-distance of an intertidal blennioid across the Atlantic-Mediterranean divide. *PeerJ* 5:e3195 <https://doi.org/10.7717/peerj.3195>. IF – 2.2.
19. Madeira PM, Chefaoui RM, **Cunha RL**, Moreira F, Dias S, Calado G and Castilho R. (2017) High-unexpected genetic diversity of a narrow endemic terrestrial mollusc. *PeerJ* 5: e3069. <https://doi.org/10.7717/peerj.3069>. IF – 2.18.
18. **Cunha RL**, Assis JM, Madeira C, Seabra, R, Lima FP, Lopes EP, Williams ST and Castilho R (2017). Drivers of Cape Verde archipelagic endemism in keyhole limpets. *Scientific Reports*, 7: 41817. doi:10.1038/srep41817. IF - 5.228.
17. Ranjbar MS, Zolgharnien H, Yavari V, Archangi B, Salari MA, Arnaud-Haond S, **Cunha RL** (2016). Rising the Persian Gulf black-lip pearl oyster to the species level: fragmented habitat and chaotic genetic patchiness in *Pinctada persica*. *Evolutionary Biology*, 43(1):131-143. doi: 10.1007/s11692-015-9356-1. IF - 2.606.
16. Tenorio MJ, Afonso CML, **Cunha RL**, Rolán E (2014) New species of *Africonus* (Gastropoda, Conidae) from boa vista in the Cape Verde archipelago: molecular and morphological characterization, *Xenophora Taxonomy* 2: 5-21
15. **Cunha RL**, Lima FP, Tenorio MJ, Ramos AA, Castilho R, Williams ST (2014) Evolution at a different pace: distinctive phylogenetic patterns of cone snails from two ancient oceanic archipelagos. *Systematic Biology*, 63 (6): 971-987 doi: 10.1093/sysbio/syu059. IF=14.387.
14. **Cunha RL**, Nicastro KN, Costa J, McQuaid, CD, Serrão EA, Zardi GI (2014) Wider sampling reveals a non-sister relationship for geographically contiguous lineages of a marine mussel. *Ecology and Evolution*, 4 (11): 2070-2081 doi: 10.1002/ece3.1033. IF=2.320.
13. Teixeira S, Olu K, Decker C, **Cunha RL**, Hourdez S, Serrão EA and Arnaud-Haond S (2013) High connectivity across fragmented chemosynthetic ecosystems of the deep Atlantic Equatorial Belt: efficient dispersal mechanisms or questionable endemism? *Molecular Ecology*, 22(18): 4663-4680. doi: 10.1111/mec.12419. IF=6.494.
12. **Cunha RL**, Coscia I, Madeira C, Mariani S, Stefanni S, Castilho R (2012) Ancient divergence in the trans-oceanic deep-sea shark *Centroscymnus crepidater*. *PLoS ONE*, 7:e49196. doi: 10.1371/journal.pone.0049196.t003. IF2011=4.092.
11. Correia, AT, Ramos AA, Barros F, Silva G, Hamer P, Morais P, **Cunha RL**, Castilho R (2012) Population structure and connectivity of the European conger eel (*Conger conger*) across the Northeastern-Atlantic and Western-Mediterranean: integrating molecular and otolith elemental approaches. *Marine Biology*, 159: 1509–1525. <https://doi.org/10.1007/s00227-012-1936-3> IF=2.393
10. Decker, C., Olu, K. **Cunha, RL**, Arnaud-Haond, S. (2012) Phylogeny and diversification patterns among vesicomid bivalves. *PLoS ONE*, 7(4): e33359. doi:10.1371/journal.pone.0033359. IF2011=4.411
9. González EG, **Cunha RL**, Sevilla RG, Ghanavi HR, Krey G, and Bautista JM (2011) Evolutionary history of the genus *Trisopterus*. *Molecular Phylogenetics and Evolution*, 62:1013-1018. <https://doi.org/10.1016/j.ympev.2011.11.032> IF=3.889
8. Reis D, **Cunha RL**, JR, Patrão C, Rebelo R, Castilho R. (2011) *Salamandra salamandra* (Amphibia: Caudata) in Portugal: not all black and yellow. *Genetica* 139:1095-1105. DOI: 10.1007/s10709-011-9609-6. IF=2.358
7. **Cunha RL**, Verdú JR, Lobo J, Zardoya, R. (2011) Ancient origin of endemic earth-boring dung beetles (Geotrupidae). *Molecular Phylogenetics and Evolution*, 59: 578-586. <https://doi.org/10.1016/j.ympev.2011.03.028> IF=3.889
6. **Cunha RL**, Lopes EP, Reis DM, Castilho R (2011) Genetic structure of *Brachidontes puniceus* populations in Cape Verde archipelago shows signature of expansion during the last glacial maximum. *Journal of Molluscan Studies*, 77: 175-181. <https://dx.doi.org/10.1093/mollus/eyr001> IF=1.253
5. Aires T, Marbà N, **Cunha RL**, Kendrick GA, Walker DI, Serrão EA, Duarte CM, Arnaud-Haond S (2011) Evolutionary history of the seagrass genus *Posidonia*. *Marine Ecology Progress Series*, 421: 117-130. IF=2.48

4. **Cunha RL**, Blanc F, Bonhomme F, Arnaud-Haond S (2011) Evolutionary patterns in pearl oysters of the genus *Pinctada* (Bivalvia: Pteriidae). *Marine Biotechnology*, 13: 181-192. <https://doi.org/10.1007/s10126-010-9278-y> IF=2.962
3. **Cunha RL**, Grande C, Zardoya R (2009) Neogastropod phylogenetic relationships based on entire mitochondrial genomes. *BMC Evolutionary Biology*, 9, 210. <https://doi.org/10.1186/1471-2148-9-210> IF: 2.823.
2. **Cunha RL**, Tenório MJ, Afonso C, Castilho R, Zardoya R (2008). Replaying the tape: recurring biogeographical patterns in Cape Verde *Conus* after 12 million years. *Molecular Ecology*, 17 (3): 885-901. DOI: [10.1111/j.1365-294X.2007.03618.x](https://doi.org/10.1111/j.1365-294X.2007.03618.x) IF: 4.825
1. **Cunha RL**, Castilho, R Rüber, R and Zardoya, R (2005). Patterns of cladogenesis in the venomous marine gastropod Genus *Conus* from the Cape Verde islands. *Systematic Biology*, 54(4):634–650. DOI: [10.1080/106351591007471](https://doi.org/10.1080/106351591007471) IF – 10.523.

## Conferences

- Corona L**, Cunha RL, Abrunhosa FE, Monteiro P, Andrade JP, Francisco SM, Robalo JI, Castilho R. Temporal stability of genetic composition of marine fish species. FBI Annual Symposium, Leuven, Belgium. July 5-8<sup>th</sup>, 2021 (online).
- Cunha RL**. As Ilhas de Cabo Verde: um hotspot de especiação marinha. Invited keynote speaker in the First Congress of Marine Biology of the Portuguese-speaking African countries and Brazil, University of Algarve, Faro, Portugal, January 2018.
- Cunha RL**, Castilho, R. A hotspot for marine speciation: The Cape Verde Islands. Evolution meeting 2017, Portland, Oregon, USA, 23-27 June 2017.
- Cunha RL**, Margarida Machado, Pedro M. Madeira, Luís Cancela da Fonseca, Rita Castilho, Margarida Cristo. Genetic cleavage in the fairy shrimp *Tanymastix stagnalis* from southwestern Portuguese temporary ponds. 7th European Pond Conservation Network Workshop & LIFE Charcos Seminar + 12th Annual Society of Wetland Scientists Chapter Meeting. Faro, Portugal, 1-6 June 2017.
- Cunha RL, **Nicastro KR**, Costa JF, McQuaid CD, Serrão EA, Zardi GI. Wider sampling reveals a non-sister relationship for geographically contiguous lineages of a marine mussel. 7th Congress of the European Malacological Societies, St. Catharine's College, Cambridge, UK, 7-11 September 2014.
- Teixeira S.**, Olu K., Decker C., Cunha RL, Fuchs S., Hourdez S., Serrão. E.A., Arnaud-Haond S. High connectivity of shrimp across large spatial scales and distinct chemosynthetic habitats. Deep-Sea biology Symposium. Wellington, New Zealand, 3-7 December, 2012.
- Helyar, S.**, Castilho, R., Cunha, RL, Massa-Gallucci, A., Sacchi, C., Mariani, S. Unraveling the population structure of the onion-eye grenadier (*Macrourus berglax*) between the Azores and northwest Norway. 6th World Fisheries Congress, Edinburgh, Scotland, 7th - 11th May.
- Mariani S.**, Coscia I., Cunha RL, Stefanni S., & Castilho R. Population genetic structure of the long-nosed velvet dogfish, *Centroselachus crepidater*, in the north Atlantic. European Elasmobranch Association, Galway - Ireland, 10-12/ November 2010.
- Cunha, RL** "Tempo and mode of evolution of the genus *Conus* in the Cape Verde Islands", Molluscan Forum 2009, Natural History Museum, London, UK. 12th November 2009.
- Cunha, RL, Tenorio, M.J., Rüber, L., Afonso, C., Castilho, R., and **Zardoya, R.** (2007). Replaying the tape: replicated biogeographic patterns in Cape Verde *Conus*. World Congress of Malacology. Antwerp, 15-20 July 2007.

## Conference Scientific Committee

- 2019** | 15th European Ecological Federation Congress, simultaneously 18th Portuguese Ecological Society Meeting of the European Ecological Federation (EEF) - "Ecology across borders: Embedding Ecology in Sustainable Developmental Goals". Lisbon, Portugal (Scientific Committee).
- 2018** | First Congress of Marine Biology of the Portuguese-speaking countries. University of Algarve, Faro, Portugal (Scientific Committee).
- 2018** | Meeting of the Portuguese Evolutionary Biology Association. Faro, Portugal (Scientific Committee).

## Courses

2015. *Population structure inference in R*, Kevin Keenan (Post-doctoral Research Assistant, University College, Cork, UK). Faro, Portugal.
2014. *Workshop on RADseq analysis using STACKS*, Nayara Rodríguez-Ezpeleta. AZTI tecnalia (Marine Research Division). Sukarrieta, Bizkaia, Spain.
2012. *Introduction to Geographic information systems and its use in ecology*, Maria Ana Dias (ISPA, Portugal). Faro, Portugal.
2010. *Statistics using R*, Filipe Alberto and Fernando Canovas (CCMAR, Algarve). Faro, Portugal.
2010. *Approximate Bayesian computation, ABC*, João Sollari Lopes (CCMAR, Algarve). Faro, Portugal.
2008. *Bayesian Evolutionary Analysis Sampling Trees, BEAST*, Patrick Lemey (University of Leuven, Bélgica) and Beth Shapiro (Penn State University). Faro, Portugal.
2005. *Molecular Evolution II*, David Swofford, Gavin Naylor and Mark Holder, Florida State University, EUA. Quarteira, Portugal.
2004. *Workshop on scientific writing*, Professor Elisabeth Heseltine, European Association of Science Editors Training. Faro, Portugal.
2002. *Molecular Evolution I*, G. Naylor, University of Iowa, EUA. Faro, Portugal.

## SCIENTIFIC ACTIVITIES

- Refereeing for the following journals: Journal of Biogeography; Molecular Ecology; Molecular Phylogenetics and Evolution; PloS ONE; Journal of Molluscan Studies; BMC Genomics; African Journal of Marine Science; Biological Conservation; Gene; Coral Reefs; Contributions to Zoology.
- Member of the Editorial Board of Mitochondrial DNA, part B during 2020.
- Member of the Editorial Board of Peerj since September, 2022