

Rosa M. Chefaoui, Ph.D.

Personal *Curriculum vitae*

1. Personal data and contacts

Full name: Rosa María Chefaoui Díaz

Nationality: Spanish (Madrid, 1973)

Current Institution: CCMAR, CIMAR-Laboratório Associado
Faculdade de Ciencia e Tecnologia (F.C.T.)
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2. Publications

2a. Papers in journals listed in the SCI [4]

Chefaoui, R., Lobo, J.M. & Hortal, J. 2011. Effects of species' traits and data characteristics on distribution models of threatened invertebrates. *Animal Biodiversity and Conservation* 34(2): 229-247.

Chefaoui, R. & Lobo, J.M. 2008. Assessing the effects of pseudo-absences on predictive distribution model performance. *Ecological Modelling* 210: 478-486.
<http://dx.doi.org/10.1016/j.ecolmodel.2007.08.010>.

Chefaoui, R. & Lobo, J.M. 2007. Assessing the conservation status of an Iberian endangered moth using a “pseudoabsence” model of explanatory variables relevant to its distribution. *Journal of Wildlife Management* 71: 2507-2516. DOI: 10.2193/2006-312.

Chefaoui, R.M., Hortal, J. & Lobo, J.M. 2005. Potential distribution modelling, niche characterization and conservation status of Iberian Copris species in central Spain. *Biological Conservation* 122: 327-338. <http://dx.doi.org/10.1016/j.biocon.2004.08.005>.
Awarded a “*Most Cited Author 2005-2008 Award*” by *Biological Conservation* (Elsevier).

2b. Book chapter

Hortal, J., Borges, P.A.V., Dinis, F., Jiménez-Valverde, A., **Chefaoui, R.M.**, Lobo, J.M., Jarroca, S., Azevedo, E.B., Rodrigues, C., Madruga, J., Pinheiro, J., Gabriel, R., Cota Rodrigues, F., & Pereira, A.R. 2005. Using ATLANTIS - Tierra 2.0 and GIS environmental information to predict the spatial distribution and habitat suitability of endemic species. *In A list of the terrestrial fauna (Mollusca and Arthropoda) and flora (Bryophyta, Pteridophyta and Spermatophyta) from the Azores* (ed by P.A.V. Borges, R. Cunha, R. Gabriel, A.F. Martins, L. Silva and V. Vieira), pp. 69-113. Direcção Regional do Ambiente and Universidade dos Açores, Horta, Angra do Heroísmo and Ponta Delgada.

2c. Other publications

Chefaoui, R., 2011. Applying species distribution modeling for the conservation of Iberian protected invertebrates. *Frontiers of Biogeography*, 3.3: 101-105. ISSN 1948-6596.

Chefaoui, R.M., 1997. Deforestación y Desarrollo Humano. *El Boletín de ARBA*, 1: 50-61. ISSN 11338-0934.

2d. Papers in conference proceedings

Chefaoui, R. M., Hortal, J., Lobo, J.M., 2002. *Obtención de mapas de distribución potencial. Análisis factorial de nicho y Biomapper*. In: Sastre, P.; de la Fuente, G.; Martínez, C.; Saura, F. y de Lucio, J.V. (eds.) Taller de Sistemas de Información Geográfica y Teledetección en Ecología, pp. 20. Dpto. Interuniversitario de Ecología-Sección de Alcalá, Universidad de Alcalá, Alcalá de Henares, Madrid.

2e. Theses

-**Chefaoui, R.M.**, 2010. Modelos predictivos aplicados a la conservación de invertebrados protegidos ibero-baleares. Ph.D. Thesis - Universidad Autónoma de Madrid, Facultad de Ciencias, Departamento de Biología, 196 pp.

-**Chefaoui, R.M.**, 2005. Aplicación de los modelos de distribución potencial a la conservación de una especie protegida: *Graellsia isabelae* (Lepidoptera: Saturniidae). MSc Thesis - Universidad Autónoma de Madrid, Facultad de Ciencias, Departamento de Biología, 42 pp.

3. Oral communications

Authors: **Chefaoui, R. M.**; Lobo, J.M.; Hortal, J.

Title: Species distribution models of threatened Iberian invertebrates

Congress: Advances in Biogeography: Early Career Conference

Place: University of Oxford, Oxford, UK.

Date: 23-25th September 2011

Authors: **Chefaoui, R. M.**; Hortal, J.; Lobo, J.M.

Title: Obtención de mapas de distribución potencial. Análisis factorial de nicho y Biomapper

Congress: Taller de Sistemas de Información Geográfica y Teledetección en Ecología

Place: Universidad de Alcalá de Henares, Madrid, Spain

Date: November 2002.

In: Sastre, P.; de la Fuente, G.; Martínez, C.; Saura, F. y de Lucio, J.V. (eds.) Taller de Sistemas de Información Geográfica y Teledetección en Ecología, pp. 20. Dpto. Interuniversitario de Ecología-Sección de Alcalá, Universidad de Alcalá, Alcalá de Henares, Madrid

4. Academic degrees

Academic experience:

2003-2010 – (5 May 2010). PhD in Biological Sciences - Evolutionary Biology and Biodiversity Program (Doctora en Ciencias Biológicas, programa de Biología Evolutiva y Biodiversidad) by the Universidad Autónoma de Madrid; Sobresaliente *cum laude* (Pass with distinction [A] and honors).

2004-2005 – (30 March 2005). MSc in Advanced Research Studies - Evolutionary Biology and Biodiversity Program (Diploma de Estudios Avanzados, programa de Biología Evolutiva y Biodiversidad) by the Universidad Autónoma de Madrid; Sobresaliente (Pass with distinction [A]).

1997-1998 – MSc in Education and Pedagogy (High School level and above) (Curso de Aptitud Pedagógica) by the Universidad Complutense de Madrid, Institute of Education Sciences; Apto (Pass [No qualification specified]).

1992-1997 – BSc in Biological Sciences (3 years of General Biology, and 2 years of specialization in Environmental Biology) (Licenciado en Ciencias Biológicas, especialidad en Biología Ambiental) by the Universidad Autónoma de Madrid; Notable (Pass with B).

Advanced training:

2013 (7 Jun.) - *Workshop: Scientific writing using LaTeX: advanced formatting of tables and figures, and bibliography management using BIBTeX.*- CCMAR, University of Algarve, Faro, Portugal.

2013 (10 May.) - *Workshop: Scientific writing using LaTeX.*- CCMAR, University of Algarve, Faro, Portugal.

2013 (24 Apr.) - *Workshop: Statistical models with R.*- CCMAR, University of Algarve, Faro, Portugal.

2013 (8 Apr.-19 Apr.) - *Revolution IV: quantitative ecology and spatial prediction of species distribution.*- CCMAR, University of Algarve, Faro, Portugal.

2011 (26 Oct.-28 Oct.) - *Esri European User Conference.*- Esri España Geosistemas, Madrid, Spain.

- 2011 (23 Sep.) - *Research Ethics, Practice and Dissemination in Biogeography* (Workshop). – The International Biogeography Society and University of Oxford, Oxford, UK.
- 2011 (23 June-27 July) - *Certificate of Content Language Integrated Methods of Teaching Secondary Science*. (Madrid Teacher Training Program). - Roosevelt University's College of Education, Chicago, Illinois, USA.
- 2006-2007 (01 Oct.-15 May) - Working Group: *Interdisciplinary Project "Book Day" in the scientific-technological field*. Centro de Formación del Profesorado de San Lorenzo de El Escorial. Consejería de Educación, Comunidad de Madrid, Spain.
- 2005-2006 (02 Nov.-05 April) - Workshop: *Working together in an Eco-school*. Centro de apoyo al Profesorado de Collado Villalba. Consejería de Educación, Comunidad de Madrid, Spain.
- 2002 (Jun.) - *Statistics for Environmental Science Seminar. Scientific Method and Patterns in Natural Sciences*.- Museo Nacional de Ciencias Naturales, Madrid, Spain.
- 2001 (Nov.) - *Introduction to Techniques and Applications of Geographic Information Systems in Ecology Seminar*.- Museo Nacional de Ciencias Naturales, Madrid, Spain.
- 1999-2000 (2 Dic.-27 April) - *Informatics Seminar* - Consejería de Educación, Madrid, Spain.
- 1999 (2 March-10 April) - *Environmental problems in the Community of Madrid*.- Consejería de Educación, Madrid, Spain.
- 1999 (28 June-2 July) - *Summer School on Current Naturalistic and Ecological Issues*.- Universidad Nacional de Educación a Distancia, Aranjuez, Madrid, Spain.
- 1998-1999 (Oct.-Jan.) - *Geographic Information Systems and Urban Planning, Environmental and Sectoral* (Specialized Training Course).- Universidad Autónoma de Madrid, Spain.
- 1998 (30 July-14 Aug.) - *Envirotech Environmental Training Course*.- Shena Simon College, Manchester, UK.
- 1997-1998 (9 Oct.-19 Jan.) - *Technical Environmental Legislation and Regulations* (Specialized Training Course).- Instituto para la Formación, Madrid, Spain.
- 1997 (Oct.-Dic.) - *Managing Tourism and Local Development in Protected Natural Areas* (Specialized Training Course).- Universidad Autónoma de Madrid, Spain.

5. Language Skills

English – *Level B2* (Vantage Independent Speaker, Common European Framework of Reference for Languages). – June, 2011. Escuela Oficial de Idiomas de Fuenlabrada (Consejería de Educación, Madrid). Apto (Pass [No qualification specified]).

French – Reading: Good; Writing: Basic; Listening: Basic; Conversation: Basic.

Portuguese – Reading: Good; Writing: Basic; Listening: Basic; Conversation: Basic.

Spanish – Native Language.

6. Previous and current scientific and/or professional activities

6a. Scientific activity

March 2013- Present – Postdoctoral Research Fellow, INTERSEA project, funded by Fundação para a Ciência e a Tecnologia (FCT) (SFRH/BPD/85040/2012).

Oct. 2002- May 2010 – Predoctoral Student, Museo Nacional de Ciencias Naturales de Madrid (CSIC).

6b. Professional activity

September 1998-February 2013 – Public Secondary and High School Teacher of Biology and Geology (civil servant; Consejería de Educación, Comunidad de Madrid).

September 2008-September 2011 – Head of the Natural Science Department. Instituto de Educación Secundaria Gaspar Melchor de Jovellanos, Fuenlabrada (Madrid).

7. Scientific activity and specialization

7a. Doctoral Research

My research has been focused on exploring the possibilities of species distribution modelling (SDM) as a tool for conservation of endangered and threatened Iberian invertebrates. I studied the divergence between actual and potential distributions for biogeographical and conservation purposes and also evaluate model performance. Databases, GIS tools and statistical analysis have been key components to explore these topics:

- Characterization of environmental niches to evaluate species environmental responses, identify suitable habitats and the primary factors affecting species' distributions.
- Applications of SDM to assess conservation status of threaten invertebrates: identifying environmentally suitable regions still not colonized, or where the species has become extinct, connectivity among populations, possible reintroductions, etc.
- Hypothesize on the biogeographic causes that shape species' actual distribution.
- Methodological issues concerning the choice of method for generating pseudo-absence data for GLM-logistic regressed models, and assess the effects of data and ecological characteristics on the accuracy of SDM techniques.

7b. Present research interests

Currently, my interests lie in applying SDM techniques to identify the ecological and evolutionary factors regulating the range limits of marine species. I am conducting my post doctoral research at CCMAR with Prof. Ass. Dr. Ester Serrao. INTERSEA (SFRH/BPD/85040/2012) will be a multidisciplinary project integrating SDM with

genetics in order to investigate the response to environmental changes of seagrasses and algae in the intertidal ecosystem along the Atlantic and Mediterranean coasts.

7c. Skills & Software Programs

- Geographic Information Systems: *Idrisi, Arc View.*
- Species Distribution Modelling: *Biomapper, Floramap, Desktop Garp, Bioclim.*
- Statistical Software: *Statistica, R.*
- Microsoft Office: *Excel, Access* and SQL Database Query, *Word, Power Point.*
- Graphic/Web Design: *Adobe Photoshop, CorelDraw.*
- Internet tools.

7d. Other skills/activities

- Diving certification: CMAS Scuba Diver - 1 Star - Qualified open water diver.

8. Award

2008 - “*Most Cited Author 2005-2008 Award*” - Biological Conservation (Elsevier). For the paper entitled “Potential distribution modelling, niche characterization and conservation status of Iberian *Copris* species in central Spain”. This paper was published in “*Biological Conservation, vol. 122* (2005), pages 327-338.

9. Teaching

9a. Secondary teaching

(Date: 1998-2013) - Institution: Consejería de Educación, Comunidad de Madrid.
Teacher in Secondary School and A Level in the following subjects (English translations in brackets):

- Ciencias de la Tierra y el Medio Ambiente (Earth and Environmental Science)
- Biología y Geología (Biology and Geology)
- Ciencias de la Naturaleza (Science of Nature)

9b. Educational Job

(Date: 2008-2011) - Institution: Consejería de Educación, Comunidad de Madrid.
Teacher and Head of Natural Science Department during 3 years in the Instituto de Educación Secundaria Gaspar Melchor de Jovellanos, Fuenlabrada (Madrid).

10. Referee for SCI Indexed Journals

Animal Biodiversity and Conservation [1], *Diversity and Distributions* [1], *Journal of Biogeography* [1], *Ecography* [1], *Folia Geobotanica* [1], *PlosOne* [4], *Insect Conservation and Diversity* [2].

11. Professional affiliations

- International Biogeography Society (IBS)

