

## Part A. PERSONAL INFORMATION

CV date

03/06/2019

First and Family name	Francisco J, Balao Robles		
Social Security, Passport, ID number	31719308P	Age	38
Researcher numbers	Researcher ID	<a href="#">E-1146-2011</a>	
	Orcid code	<a href="#">0000-0003-2104-3846</a>	

### A.1. Current position

Name of University/Institution	Universidad de Sevilla		
Department	Dpto. Biología Vegetal y Ecología. Facultad de Biología		
Address and Country	Avd. Reina Mercedes s/n, 41012-Sevilla		
Phone number	+34954559887	E-mail	<a href="mailto:fbalao@us.es">fbalao@us.es</a>
Current position	Profesor Titular de Universidad	From	16/11/2018
Espec. cód. UNESCO	241799 (Molecular Ecology)		
Keywords	Polyploidy, Hybridization, Molecular Ecology, Plant Evolution, Conservation, Phylogeography		

### A.2. Education

PhD	University	Year
Bachelor of Science in Biology	Universidad de Sevilla	2004
University Expert in Advanced Methods in Applied Statistics	Universidad Nacional de Educación a Distancia	2008
PhD in Biology	Universidad de Sevilla	2010
University Expert in Multivariate Statistical Methods	Universidad Nacional de Educación a Distancia	2011
Master degree in Professor Training to Teach in the Higher Education	Universidad Nacional de Educación a Distancia	2013

### A.3. JCR articles, h Index, thesis supervised...

No. six-year research periods: 2 (2006-2011 and 2012-2017)

No. supervised theses: 2 (one on-going)

Total citation: 345 (SCI) 474 (Scholar)

Average citation/year in the last five years: 47.2 (SCI) 60.6 (Scholar)

Total publications SCI: 27 (D1: 7, Q1: 22)

H index = 9 (SCI) H index = 12 (Scholar)

## Part B. CV SUMMARY (max. 3500 characters, including spaces)

I studied Biology at University of Seville graduating in 2004. In 2006, I was granted with a PhD fellowship (FPU) by Spanish Ministry of Science. During my PhD I realized two different stays in two internationally recognized centers: Real Jardín Botánico de Madrid, Spain (3 months, advisor Dr. Pablo Vargas), and Dpt. Plant Systematic, Bayreuth, Germany (3 months, advisor Dr. Stefan Dötterl). In 2010, I defended my PhD Thesis with Prof. Talavera and Dr. Javier Herrera at University of Seville with mention "Cum laudem" and "Excellence doctorate award". In 2012, I was awarded an Individual Marie Curie Fellowship (IEF, FP7, European Commission) for the realization of the project TRANSADAPTATION in Ovidiu Paun's laboratory at the University of Vienna (Austria).

Since its start, my research has been focused on key aspects of the polyploidy as a driver of plant evolution. During my PhD, I worked on the evolution of the autopolyploid complex *Dianthus broteri*, using reproductive biology, cytogenetics, phylogeographic, biochemical and population genetics studies. During my postdoctoral stage in Vienna, I gained extensive experience in genomics and transcriptomics tools to study the evolution of sibling allopolyploids in *Dactylorhiza majalis* complex. I have also collaborated in several phylogenetic and phylogenomic studies on Mediterranean plants.

Since 2002, I am member of a research group (RNM-204) funded by the Junta de Andalucía and I have participated in 9 projects financed by competitive public calls, Plan Nacional de

Investigación (4), Proyectos de Excelencia y del Plan Andaluz de Investigación (PAI) de la Junta de Andalucía (5), and Austrian Science Fund (FWF, 2).

Currently I'm the principal investigator of a research project funded by Aridos La Melera S.L. (Contract Arts. 68/83 LOU) and I have participated in 3 additional research contracts funded by TRAGSA company.

My capacity to deliver high quality results is reflected in my publication track record. I have published peer-reviewed papers at every stage of my research career and at every R+D project I have participated (also supervising several final-year undergraduate, 4 Master students, 2 PhD students and 3 postdoctoral researchers into different research projects). My total count is 27 SCI publications (mostly as first author) with an average ISI-2018 impact factor higher than 4, including highly-rated general Plant Science and Ecology journals like *New Phytologist* (4), *Molecular Ecology* (2) or *Annals of Botany* (2). h index 11 and about 400 citations according to Google Scholar; h index 9 and about 300 citations according to ISI Web of Knowledge. I have also published 3 articles in non-indexed journals and 9 book chapters in prestigious scientific collections as *Floral Iberica* and *Atlas and Libro Rojo de la Flora vascular amenazada de España*. Moreover, I have presented 53 communications in national and international congresses, including several oral communications.

Since 2011, I hold a lecturer position (with different categories) at the Department of Plant Biology and Ecology of the University of Sevilla. Currently, I am member of the Academic Board of the Master's Programme, Advanced Biology, and the Doctor's Programme, Integrated Biology, University of Seville.

## **Part C. RELEVANT MERITS**

### **C.1. Publications (including books)**

1. López-Jurado J, Mateos-Naranjo E, Balao F. **2019**. Niche divergence and limits to expansion in the high polyploid *Dianthus broteri* complex. *New Phytologist* **222**: 1076-1087
2. **Balao F**, Trucchi E, Wolfe T, Hao B-H, Lorenzo MT, Baar J, Sedman L, Kosiol C, Amman F, Chase M, Hedrén M, Paun O. 2017. Adaptive sequence evolution is driven by biotic stress in a pair of orchid species (*Dactylorhiza*) with distinct ecological optima. *Molecular Ecology* **26**:3649–3662
3. Alonso C, **Balao F**, Bazaga P, Pérez R. 2016. Epigenetic contribution to successful polyploidizations: variation in global cytosine methylation along an extensive ploidy series in *Dianthus broteri* (Caryophyllaceae). *New Phytologist* **212**:571-576
4. **Balao F**, Casimiro-Soriguer R, García-Castaño JL, Terrab A, Talavera, S. 2015. Big thistle eats the little thistle: does unidirectional introgressive hybridization endanger the conservation of *Onopordum hinojense*?. *New Phytologist*, **206**: 448-458.
5. Sánchez-Robles JM, García-Castaño JL, **Balao F**, Terrab A, Navarro-Sampedro L, Tremetsberger K, Talavera S. 2014. Effect of tree architecture on pollen dispersal and mating patterns in *Abies pinsapo* Boiss. *Molecular Ecology*, **23**: 6165–6178.
6. Schäffler I, **Balao F**, Dötterl S. 2012. Floral and vegetative cues in oil and non-oil secreting *Lysimachia* species. *Annals of Botany*, **110**: 125-138.
7. **Balao F**, Herrera J, Talavera S. 2011. Phenotypic consequences of polyploidy and genome size at the microevolutionary scale: a multivariate morphological approach. *New Phytologist*, **192**: 256-265.
8. **Balao F**, Herrera J, Talavera S, Dötterl S. 2011. Spatial and temporal patterns of floral scent emission in *Dianthus inoxianus* and electroantennographic responses of its hawkmoth pollinator. *Phytochemistry*, **72**: 601-609.

9. **Balao F**, Valente L, Vargas P, Herrera J, Talavera S. 2010. Radiative evolution of polyploid races of the Iberian carnation *Dianthus broteri* (Caryophyllaceae). *New Phytologist*, **187**: 542-551.
10. **Balao F**, Casimiro-Soriguer R, Talavera M, Herrera J, Talavera S. 2009. Distribution and diversity of cytotypes in *Dianthus broteri* as evidenced by genome size variation. *Annals of Botany*, **104**: 965-973.

## C.2. Research projects and grants

1. Grant from VI Plan Propio de Investigación y Transferencia Universidad de Sevilla. "IV.4 Ayudas proyectos precompetitivos" (2018, funded €5K). PI **Francisco Balao**
2. Grant from VI Plan Propio de Investigación y Transferencia Universidad de Sevilla. "Ayudas para el uso de los Servicios Generales de Investigación" (2018, €1.7K). PI **Francisco Balao**
3. START grant (Austrian Science Fund, FWF for the Austrian Ministry of Science, BMWF): "Evolution through recurrent allopolyploidization"(Y661, 2013 - 2019, €1.2M). PI Ovidiu Paun (University of Vienna).
4. Spanish MINECO research project "Filogenia y Filogeografía de los abetos (*Abies* spp.) circunmediterráneos". (CGL2013-45463-P, 2014-2016, funded €79K). PI Anass Terrab (Universidad de Sevilla).
5. Marie Curie Intra-European Grant (EU Commission): "Transadaptation, molecular architecture of adaptive diffusion in sibling allopolyploid lineages (*Dactylorhiza*, Orchidaceae)" (2013 - 2015, €180K). PI **Francisco Balao**
6. FWF Stand-alone grant (Austrian Science Fund, FWF): "Evolution through recurrent allopolyploidization" (P25363-B16, 2013 - 2016, €348K). PI Ovidiu Paun (University of Vienna).
7. Spanish Ministry of Economy and Competitiveness Research project "Flora Iberica IX(2)" (CGL2012-32914, 2013-2015, €210K) . PI Carlos Romero (Universidad de Sevilla).
8. Spanish Ministry of Education and Science Research Projects "Flora Iberica VIII(2)" (CGL2009-08178, 2010-2013, €148). PI Salvador Talavera (Universidad de Sevilla).
9. Andalusian Excellence Projects "Diversidad genética, fitogeografía y conservación de los pinsapos (*Abies pinsapo*) andaluces" (P08-RNM-03703, 2009-2013, €259K). PI Salvador Talavera (Universidad de Sevilla).
10. Spanish Ministry of Education and Science Research Projects "Flora Ibérica VII (2)" (CGL2006-00817, 2006-2010, €160K). PI Salvador Talavera (Universidad de Sevilla).
11. Andalusian Excellence Projects "Evolución de Espermatofitas del Occidente Del Mediterráneo" (EXC/2005/RNM-484, 2006-2009, €183K). PI Salvador Talavera (Universidad de Sevilla).

**C.3. Contracts**

1. Áridos la Melera, S.L contract "Proyecto de conservación de *Dianthus inoxianus* en la Cantera Macías: translocación y refuerzo de poblaciones" (FIUS 2234-0724, 2014-2018, €28.7K). PI **Francisco Balao**
2. TRAGSA contract "Atlas de la Flora Amenazada" (AFA-4, 2009, €6.4K). PI Salvador Talavera
3. TRAGSA contract "Proyecto de continuación del Atlas y Libro Rojo de la Flora Vascular Amenazada de España" (AFA-3, 2007, €5.1K)
4. TRAGSA contract "Proyecto de continuación del Atlas y Libro Rojo de la Flora Vascular Amenazada de España. Estudio básico de *Dianthus inoxianus* y *Onopordum dissectum* Murb. (AFA-2, 2005, €4.6K)

**C.4. Patents**

R Package [AFLPsim](#). CC Public Patent License

**C.5. Service**

**Faculty Member** Doctorate School Integrated Biology (Universidad de Sevilla)

**Reviewer - Funding Agencies**

• Royal Society Te Apārangi - Marsden Fund (New Zealand) • Scientific and Technological Research Fund, FonCyt (Argentina) • National Research, Development and Innovation Office, NKFIH (Hungary) • Czech Science Foundation, GACR (Czech Republic) • National Authority for Scientific Research (Romania)

**Associate Editor:** Flora. Morphology, Distribution, Functional Ecology of Plants. SCI IF 1.36

**Reviewer - Selected Scientific Journals**

• New Phytologist; • Molecular Ecology • Journal of Ecology • Annals of Botany • American Journal of Botany • BMC Evolutionary Biology • Methods in Ecology and Evolution

**Organization of International Symposia**

2017: XIV MEDECOS Symposium - "Across-kingdom mutualistic interactions of Mediterranean endemic plants: are they ecologically distinctive? ", Seville, Spain (with C. Alonso, Estación Biológica de Doñana, Spain).

**C.6. Awards and other grants**

2012: Extraordinary Doctorate Award 2009/2010 Universidad de Sevilla

2006-2010: Predoctoral Grant (FPU) from Spanish Ministerio de Educación y Ciencia (AP2005-4314)

**C7. Memberships of scientific societies**

- Asociación Española de Ecología Terrestre (AEET)
- Sociedad Española de Biología de la Conservación de Plantas (SEBiCoP).