

PERSONAL DETAILS

Name: Jesus Villellas
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ACADEMIC TITLES

PhD in Biology with International Mention. University of Barcelona. 21/03/2013.

MSc in Biodiversity. University of Barcelona. 01/09/2007.

BSc in Biology. University of Barcelona. 01/07/2006.

CURRENT POSITION

Postdoctoral Researcher. National Museum of Natural Sciences, CSIC, Madrid (Spain). 01/11/2018 - present.

PREVIOUS POSITIONS

Postdoctoral Research Assistant. Pyrenean Institute of Ecology, CSIC, Zaragoza (Spain). 01/07/2018 - 30/09/2018

Postdoctoral Researcher. Dept. of Zoology, Trinity College Dublin (Ireland). 01/01/2016 - 28/02/2018.

Postdoctoral Researcher. Dept. of Biology, Duke University (USA). 06/05/2015 - 31/12/2015.

Postdoctoral Researcher. Dept. of Ecology & Genetics, Uppsala University (Sweden). 05/05/2013 - 05/05/2015.

PUBLICATIONS IN SCI JOURNALS

Villellas, J., M.B. García & W.F. Morris (2019). Geographic location, local environment, and individual size mediate the effects of climate warming and neighbors on a benefactor plant. *Oecologia* 189:243-253.

Villellas, J. & M.B. García (2018). Life-history trade-offs vary with resource availability across the geographic range of a widespread plant. *Plant Biology* 20:483-489.

Nuche, P., B. Komac, M. Gartzia, J. **Villellas**, R. Reiné, & C.L. Alados (2018). Assessment of prescribed fire and cutting as means of controlling the invasion of subalpine grasslands by *Echinopartum horridum*. *Applied Vegetation Science* 21:198-206.

Canelles, Q., S. Saura-Mas, L. Brotons, M.B. García, F. Lloret, **J. Villellas** & W.F. Morris (2018). Environmental stress effects on reproduction and sexual dimorphism in the gynodioecious species *Silene acaulis*. *Environmental and Experimental Botany* 146:27-33.

Villellas, J. & M.B. García (2017). Intrinsic and extrinsic drivers of recruitment across the distribution range of a seed-dimorphic herb. *Plant Ecology* 218:529-539.

Pironon, S., **J. Villellas**, W. Thuiller, V. Eckhart, M. Geber, D. Moeller & M.B. García (2017). The “Hutchinsonian niche” as an assemblage of demographic niches: implications for species geographic ranges. *Ecography* 41:1103-1113.

Pironon, S., G. Papuga, **J. Villellas**, A.L. Angert, M.B. García & J.D. Thompson (2017). Geographic variation in genetic and demographic performance: new insights from an old biogeographical paradigm. *Biological Reviews* 92:1877-1909.

Munné-Bosch, S., A. Cotado, M. Morales, E. Fleta-Soriano, **J. Villellas** & M.B. García (2016). Adaptation of the long-lived monocarpic perennial, *Saxifraga longifolia* to high altitude. *Plant Physiology* 172:765-775.

Villellas, J., J.L.H. Cardós & M.B. García (2016). Contrasting population dynamics in the boreo-alpine *Silene acaulis* (Caryophyllaceae) at its southern distribution limit. *Annales Botanici Fennici* 53:193–204.

Villellas, J., D.F. Doak, M.B. García & W.F. Morris (2015). Demographic compensation: what is it, how does it arise, and what are its implications? *Ecology Letters* 18:1139-1152.

Berjano, R., **J. Villellas**, M.B. García & A. Terrab (2015). Phylogeography reveals latitudinal population structure of the common herb *Plantago coronopus*. *Botanical Journal of the Linnean Society* 179:618-634.

- Pironon, S., **J. Vilellas**, W.F. Morris, D.F. Doak & M.B. García (2014). Do geographic, climatic or historical ranges differentiate the performance of central versus peripheral populations? *Global Ecology and Biogeography* 24:611-620.
- Vilellas, J.**, R. Berjano, A. Terrab & M.B. García (2014). Divergence between phenotypic and genetic variation within populations of a common herb across Europe. *Ecosphere* 5:Art 56.
- Vilellas, J.**, W.F. Morris & M.B. García (2013). Variation in stochastic demography between and within central and peripheral regions in a widespread short-lived herb. *Ecology* 94:1378-1388.
- Vilellas, J.** & M.B. García (2013). The role of the tolerance-fecundity trade-off in maintaining seed trait variation of a widespread dimorphic herb. *Plant Biology* 15:899-909.
- Vilellas, J.**, J. Ehrlén, J.M. Olesen, R. Braza & M.B. García (2013). Plant performance in central and northern peripheral populations of the widespread *Plantago coronopus*. *Ecography* 36:136-145.

OTHER PUBLICATIONS

- Vilellas, J.**, R. Berjano, A. Terrab & M.B. García (2019). Weak relationship between neutral genetic diversity and demography in a plant at continental scale. *Ecosistemas* 28: 4-14.
- Pardo, I., P. Tejero, **J. Vilellas**, D. Gómez, R. García-González, D.F. Doak, W.F. Morris, A. Aldezabal, M.P. Pata, S. Lavergne & M.B. García (2018). Monitoring and evaluation of the effects of global change in plant diversity of mountain ecosystems. *Report*. Research Projects for National Parks in Spain, 2012-2015.
- Vilellas, J.** (2014). Variabilidad demográfica y de historia vital en una planta de amplia distribución: el papel de los factores medioambientales, geográficos y genéticos. *Ecosistemas* 23: 153-157.
- Moltesen, M., P. Tejero & **J. Vilellas** (2005). Past, present and future of 4 boreo-alpine species in the global warming context. *Book chapter*. Arctic Biology Field Course, Qeqertarsuaq 2004, p. 72-92. Institute of Biology, Copenhagen University.

SCIENTIFIC PRESENTATIONS

Contributed talks in scientific meetings (5 most relevant)

- Vilellas, J.** & Y.M. Buckley (2016). "Source environment affects growth and reproduction in native and non-native populations of *Plantago lanceolata*" (Oral). British Ecological Society Meeting. Liverpool (UK), Dec 2016.
- Vilellas, J.**, D.F. Doak, M.B. García & W.F. Morris (2015). "Demographic compensation across environmental gradients and species' distribution ranges" (Oral). 4^o Iberian Ecology Meeting. Coimbra (Portugal), Jun 2015.
- Vilellas, J.**, J.M. Olesen, J. Ehrlén, W.F. Morris & M.B. García (2013). "Species' distributions: the interplay between demography and climate across ranges" (Oral). Faster, Higher, More? - Alpine and Arctic Flora under Climate Change. Bergün (Switzerland), Sep 2013.
- Vilellas, J.**, W.F. Morris & M.B. García (2011). "Adapt or die. Changes in population dynamics across the range of a widespread herb" (Oral). XII Congress of European Ecological Federation. Ávila (Spain), Sep 2011.
- Vilellas, J.** & M.B. García (2009). "Fitting seed number and size to the local environment at large spatial scales" (Poster). 94th Ecological Society of America Annual Meeting. Albuquerque (USA), Aug. 2009.

Invited departmental presentations

2016. Analysing life-history variation across plant distribution ranges. Department of Zoology, Trinity College Dublin. Mar 2016.
2013. Demographic variability across the range of a widespread short-lived plant. Department of Ecology and Genetics, Uppsala University. Oct 2013.
2010. Comparative demography of a widespread short-lived herb across its range. Department of Biology, Duke University. Oct 2010.

FUNDING

2017. Grant for the workshop "*PLANTPOPNET Workshop: Environmental & climatic drivers of grassland plant performance*", for the global demographic network PLANTPOPNET. Sep 2017. Awarding entity: Science Foundation Ireland (Ref: 17/CW/4943). Contribution as coordinator of application. Amount: **€7,000**
2012. Grant for attending the course "*Integral Projection Models*" (see Training courses). Aug 2012. Awarding entity: International Max Planck Institute for Demography, Germany.
2010. Fellowship for a PhD 2-month stay in Duke University, USA. Oct-Dec 2010. Awarding entity: Spanish Ministry of Education and Science. Amount: **€1,340**

2008. Fellowship for a PhD 3-month stay in Stockholm University, Sweden. Sep-Nov 2008. Awarding entity: Spanish Ministry of Education and Science. Amount: **€1,340**
- 2007-2010. Fellowship “*FPU Researcher Training*” to develop a PhD in the Pyrenean Institute of Ecology, Spain. Awarding entity: Spanish Ministry of Education and Science. Total gross amount (for salary): **€59,100**
- 2007-2010 (declined). Fellowship “*DGA Researcher Training*” to develop a PhD in the Pyrenean Institute of Ecology, Spain. Awarding entity: Regional Government of Aragon, Spain. Total gross amount (for salary): **€55,200** (declined to accept the more prestigious FPU fellowship, see above).
2006. Fellowship for Introduction in Science to undergraduates: 3-month internship in the Pyrenean Institute of Ecology, Spain. Sep-Dec 2006. Awarding entity: Spanish National Research Council. Amount: **€3,100**
2006. Grant for attending the “*VI European Seminar on Marine Mammals: Biology and Conservation*”. Sep 2006. Awarding entity: Menendez Pelayo International University - UIMP. Valencia, Spain.
2006. Fellowship “*Collaboration in Departments*”: Internship in Plant Biology Dept., University of Barcelona, Spain. Jan-Jun 2005. Awarding entity: Spanish Ministry of Education and Science. Amount: **€2,400**
2004. Project “*Past, present and future of 4 boreo-alpine species in the global warming context*”. Jun-Aug 2004. Awarding entity: WWF Fund & Copenhagen University. Co-principal investigator. Amount: **€3,360**.

PARTICIPATION IN OTHER SCIENTIFIC PROJECTS

- 2015-2019. “*Loosing the network: The role of threatened plants in the conservation of global diversity*”. Awarding entity: BBVA Foundation for Scientific Research. PI: Dr María B. García (Pyrenean Institute of Ecology, Spain). Budget: **€99,778**
- 2015-2017. “*POP-STAR SFI. Plant population strategy and response to the environment*”. Awarding entity: Science Foundation Ireland (Ref: 15/ERC/2803). PI: Dr Yvonne Buckley (Trinity College Dublin, Ireland). Budget: **€592,360**
2013. “*Demography of geographical range limits of tundra plants in a changing climate*”. Awarding entity: Research Council of Norway (Ref: Arctic Field Grant 227514). PI: Dr William Morris (Uppsala University, Sweden). Budget: **€4,425**
- 2012-2015. “*Demographic causes of latitudinal range limits of a mountain plant across two continents*”. Awarding entity: Swedish Research Council (Ref: 2012-42619-94710-26). PI: Dr William Morris (Uppsala University, Sweden). Budget: **€251,960**
- 2011-2013. “*Monitoring plant communities and populations at the edge for detecting changes in mountain biodiversity*”. Awarding entity: Spanish Ministry of Science and Innovation (Ref: CGL2010-21642). PI: Dr María B. García (Pyrenean Institute of Ecology, Spain). Budget: **€131,890**
- 2008-2011. “*Monitoring plant biodiversity and its components in a mountain National Park*”. Awarding entity: Spanish Autonomous Organism of National Parks (Ref: 018/2008). PI: Dr María B. García (Pyrenean Institute of Ecology, Spain). Budget: **€99,567**
- 2006-2009. “*Plant population viability. Current drivers and responses in new scenarios created by environmental changes*”. Awarding entity: Spanish Ministry of Science and Technology (Ref: CGL2006-08507/BOS). PI: Dr María B. García (Pyrenean Institute of Ecology, Spain). Budget: **€60,000**

PRIZES AND AWARDS

2019. Seal of Excellence from European Commission to the Marie-Curie project proposal “*Evolutionary Demography of Invasions: Individual and population effects of plasticity and adaptation in invasive plants*”
2017. “Most useful talk of the year” about PhD vivas in TCD eco-evolution discussion group “NERD club”.
2015. Best PhD Thesis Summary Award by the Ecology journal *Ecosistemas*. Madrid, Spain.
2013. PhD International Mention. Barcelona University, Barcelona, Spain.
2001. Honour Mention in the XIV Spanish Chemistry Olympiad. Barcelona, Spain.

TRAINING COURSES (SELECTED)

2018. Análisis de redes ecológicas. Organiser: Spanish Association of Terrestrial Ecology. Mallorca, Spain. 21-23/03/2018
2017. Grant-writing workshop. Organiser: Yvonne Buckley, Trinity College Dublin. Dublin, Ireland. 10/07/2017.
2012. Integral Projection Models. Organiser: International Max Planck Institute for Demography. Rostock, Germany. 20-25/08/2012.
2012. Mixed Models using R. Organiser: University of Santiago de Compostela. Santiago, Spain. 04-07/06/2012.
2010. Assessing population risk for endangered species management. Organiser: University of Zaragoza. Jaca, Spain. 01-03/09/2010.

2009. A New Approach to Population Models: Sensitivity Analysis via Matrix Calculus. Organiser: Ecological Society of America. Albuquerque, USA. 02/08/2009.
2008. Population Viability Analysis. Organiser: University of Barcelona. Barcelona, Spain. 02-06/06/2008.

OUTREACH AND PUBLIC ENGAGEMENT

2018. Participation in “*Loosing the network: The role of threatened plants in the conservation of global diversity*”, a citizen-science project involving the collaboration of volunteers and rangers to monitor the flora in the Spanish region of Aragon (see *Participation in Other Scientific Projects*).
2017. Meeting with managers and representatives of environment and agri-food industry. “Plant population responses to climate and land-use change: future adaptation of plant-based industries”. Workshop of the demographic network PLANTPOPNET. Trinity College Dublin, Dublin (Ireland). Sep 2017.
2017. Course “Communicating to a non-scientific public”. University of Sevilla, Sevilla (Spain). Feb 2017.
2016. Media cover of my publication *Munné-Bosch et al. 2016, Plant Physiology 172:765-775*. Publication highlighted by ScienceDaily (www.sciencedaily.com/releases/2016/11/161121112315.htm) and University of Barcelona (www.ub.edu/web/ub/es/menu_eines/noticies/2016/11/039.html) websites.
2014. Publication of plant demographic data in the open-access database COMPADRE.
2005. Documentation of arthropod collections. Museum of Natural Sciences, Barcelona (Spain). Jun-Aug 2005.
2003. Workcamp to catalog fauna and flora of hiking routes in Amurrio, Alava (Spain). Jul 2003.
2001. Course “Volunteering for the Conservation of Birds and their Habitats”. Zaragoza, Spain. Dec 2001.

LEADERSHIP AND RESEARCH MANAGEMENT

2019. Co-organiser and moderator of the scientific session on Functional Traits and Fitness in the Meeting of the Iberian Society of Ecology, Barcelona, Spain.
2018. Member of the steering committee of the international demographic network PLANTPOPNET.
2017. Representative for postdocs. Zoology Department, Trinity College, Ireland.
2016. Chair of “Evolutionary Ecology” session of British Ecological Society Meeting 2016. Liverpool, UK.

SUPERVISION AND EVALUATION

2019. Project evaluator for the British Ecological Society (UK).
2018. Project evaluator for the Czech Science Foundation (Czech Republic).
2017. Project evaluator for the National Science foundation (USA).
- 2016-2017. Supervision of undergraduate Project “Exploring the population dynamics of three contrasting populations of *Plantago lanceolata*; an investigation into intraspecific variation”. Student: Cian White. Co-supervisor: Dr Y. Buckley. Zoology Department, Trinity College Dublin, Ireland.
2014. PhD thesis committee (alternate member). Student: Pablo Tejero Ibarra. Thesis: “Análisis de la variabilidad genética en poblaciones de *Silene acaulis* y *Arabis alpina*: recorrido de alta montaña con parada en el Pirineo”. Facultad de Ciencias Biológicas, Universidad Complutense de Madrid, Spain.
- 2013-present. Peer reviewer for SCI journals (89th percentile in number of reviews among registered researchers in Publons; <https://publons.com/author/904159/jesus-villellas#stats>). Journals: *PNAS*, *Ecological Monographs*, *Journal of Ecology*, *Ecology*, *Environmental and Experimental Botany*, *Biological Conservation*, *Oecologia*, *PLOS-ONE*, *Plant Ecology*, *Ecology and Evolution*, *Population Ecology*.

TEACHING

2019. Course “Demographic models and population dynamics” (2 ECTS). Master in Biodiversity and Conservation Biology, University Pablo Olavide (Seville, Spain). Mar 2019.
2018. Course “Demographic models and population dynamics” (2 ECTS). Master in Biodiversity and Conservation Biology, University Pablo Olavide (Seville, Spain). Mar 2018.
2014. Course “Demographic models and population dynamics” (2 ECTS). Master in Biodiversity and Conservation Biology, University Pablo Olavide (Seville, Spain). Apr 2014.
2013. Course “Population Modelling” (2 ECTS). Master in Population and Community Ecology, Uppsala University (Uppsala, Sweden). Oct-Nov 2013.
2012. Course “Demographic models and population dynamics” (2 ECTS). Master in Biodiversity and Conservation Biology, University Pablo Olavide (Seville, Spain). May 2012.

LED RESEARCH EXPEDITIONS

- 2013-2015 (summers). Field campaigns in Abisko, N Sweden, to monitor a global warming experiment in arctic-alpine plants, as a postdoc in Uppsala University and Duke University.
- 2011-2015 (summers). Field campaigns in Ordesa National Park, Spain, to monitor demographic performance of mountain plants, as a PhD student or research technician in the Pyrenean Institute of Ecology.
- 2007-2010 (summers). Field campaigns in Spain, Sweden and Scotland to monitor demographic performance of coastal plants, as a PhD student.
- 2004 (summer). Field campaign in Greenland and Spain to monitor performance of four arctic-alpine plants, as an undergraduate student (co-led with other three students).

LANGUAGE SKILLS

Spanish: mother tongue

English: Proficiency level (*C2). University of Cambridge (UK), Jun 2005.

French: Basic level (*A2). Official Language School, University of Zaragoza (Spain), Nov 2010.

Swedish: Basic level (*A1). University of Stockholm (Sweden), Nov 2008.

Danish: Basic level (*A1). University of Copenhagen (Denmark), Dec 2003.

* Common European Framework of Reference for Languages (CEFR)