

Part A. Personal Information		DATE	February 2020
Surname(s)	Vilà		
Forename	Montserrat		
ID number	40462147H		
Sex	woman		
Age	54		
Researcher numbers	Researcher ID	D-9339-2013	
	Open Researcher and Contributor ID (ORCID)	0000-0003-3171-8261	

A.1. Current position

Post/ Professional Category	Research professor		
UNESCO Code	2417-13 Ecología Vegetal		
Key Words	Alien plants, biodiversity, biogeography, biological invasions, global change, Mediterranean ecosystems, plant communities		
Name of the University/Institution	CSIC		
	Center	Estación Biológica de Doñana	
	Full Address	Américo Vespucio 26, Isla de la Cartuja, Sevilla	
	Email address	montse.vila@ebd.csic.es	
	Phone number	690934093	
Start date	2010		

A.2. Education (*title, institution, date*)

1989	Universitat Autònoma de Barcelona (UAB)	B.S. Biology	
1993	UAB	PhD. Biology	<i>Effect of competition in resprouting, growth and flowering of Erica multiflora L. after disturbances</i>
1994-1996	University of California, Berkeley	Post doctorate	<i>Title: Invasion ecology of Carpobrotus hybrids</i>

A.3. Indicators of Quality in Scientific Production (*See the instructions*)

- Among the top 1% researchers for most cited documents in the Ecology/Environment field for 2014, 2015, 2016, 2017, 2018, 2019 according to Clarivate Analytics (former Thomson Reuters)
 - >185 ISI publications (>90% Q1 Ecology/Plant Sciences/Environmental Sciences),
 - > 30 papers for the general public.
 - Co-editor of 7 books and author of > 40 book chapters, S
 - COPUS: >16800 (h = 57), Google Scholar: > 26500 citations (h = 71).
- See <http://www.montsevila.org.>, https://www.researchgate.net/profile/Montserrat_Vila

Part B. Free Summary of CV (*Max. of 3.500 characters, including spaces*)

As a Post doctorate at the University of California, Berkeley I got interested on the ecology of biological invasions by exotic organisms and on biotic homogenization. Interdisciplinary and international collaboration has been essential in developing my main research interests with currently focus on the following areas:

(1) Description of macroecological patterns of invasions. I have identified which are the most invaded habitats at the landscape scale, at the national scale, at the European level and

across the Mediterranean Biome. In Spain there are about 1000 exotic plants established in natural areas. The most invaded habitats are anthropogenic landscapes such as urban and agricultural lands, coastal habitats or riparian forests. This pattern is similar across all Mediterranean regions of the World. In Europe, the most invaded countries are the economically most developed with temperate climatic conditions that facilitate the introduction and establishment of species in the wild. We have described time lags in invasion, that is, past human activities explain better contemporaneous invasions than current human activities. Therefore, our results indicate that there is a need to dig up on the history to understand which exotic species invade today and which ones will in the future.

(2) Effect of global change on invasions. We have identified both the effects of climate change and land-use changes on invasions. Recently, we have modelled the present and future distribution of 100 of the most invasive species in terrestrial, freshwater and marine European habitats. Protected areas are free from the most important species that invade the continent. Nevertheless, future climatic change projections indicate that these non-native species will expand at fast speed to the North and East of Europe. We have also mapped increases and decreases of invasion depending on future socioeconomic changes to identify the most vulnerable areas to invasion.

(3) Analysis of the ecological and socio-economic impacts of invasions. Our leading global synthesis on the impacts of biological invasions have demonstrated that there are general trends towards invasive plant species reducing the fitness and diversity of the native flora and fauna, altering energy flow and changing nutrient cycling. Usually, once society is aware of the economic consequences of invasions, it is already too late to mitigate their environmental impacts. Recently, I have co-edited a book published in Springer on the impacts of invasive species on ecosystem services, including cultural services (Vilà & Hulme 2017). This book illustrates the importance to identify conflicts among socioeconomic sectors that perceive and value the effects of biological invasions differently.

Our work on biological invasions is regularly portrayed in the media (e.g. Discovery Channel News, BBC Earth Watch, Associated Press, Le Monde, Público, Canal Sur, RTVE) and has been highly influential on environmental management at the local, national and international level.

Part C. Accomplishments (Order by typology)

C.1. Ten selected publications for the last 5 years

Bradley BA et al. (10/11) 2019. Disentangling the abundance-impact relationship for invasive species. *PNAS in press*. <https://www.pnas.org/content/early/2019/04/26/1818081116>

Vilà M et al. 2019. A review of impact assessment protocols of non-native plants. *Biological Invasions* 21:709-723.

Vaz AS, (5/11) 2018. An indicator-based approach to analyse the effects of non-native tree species on multiple cultural ecosystem services. *Ecological Indicators* 85: 48-56.

Vilà M & Hulme PH (eds.) 2017. *Impact of biological invasions on ecosystem services*. Springer, Heidelberg.

Magrach A, JP González-Varo, M Boiffier, **M. Vilà** & I Bartomeus. 2017. Honeybee spillover reshuffles pollinator diets and affects plant reproductive success. *Nature Ecology and Evolution* 1: 1299–1307.

Gallardo B et al. (9/9) 2017. Protected areas offer refuge from invasive species spreading under climate change. *Global Change Biology* 23:5331-5343.

Gallardo B, M Clavero, MI Sánchez & **M Vilà**. 2016. Global ecological impacts of invasive species in aquatic ecosystems. *Global Change Biology* 22:151-163.

Kumschick S (19/3) 2015. Ecological impacts of alien species: quantification, scope, caveats and recommendations. *Bioscience* 1:55-63.

Lapiedra O et al. (4/4) 2015. Random processes and phylogenetic loss caused by plant invasions. *Global Ecology and Biogeography* 24:774-785.

Vilà M et al. (7/1) 2015. Explaining the variation in impacts of non-native plants on local-scale species richness: the role of phylogenetic relatedness. *Global Ecology and Biogeography* 24:139-146.

C.2. Participation in Research, Development and Innovation Projects

- Besides PI of uninterrupted funding from the Spanish National Research Plan, major funding comes from competitive EU projects.
- Understanding and managing the impacts of Invasive alien species on Biodiversity and Ecosystem Services (INvasiVES). Shortlisted for possible funding at the ERANET-BIODIVERSA call and submitted at the PCIN 2018 call). Coordinator of the proposal: **M. Vilà**
- Managing stability of biodiversity-based eCOsystem services in crops through enhanced DENSITY of green infrastructure in Agricultural Landscapes (ECODEAL), ERANET-BIODIVERSA PCIN-2014-084. PI: Y Clout, PI in Spain: **M. Vilà**, 99k € (2015-2017).
- COST Actions: Alien Challenge TD1209 (Coordinator: H. Roy, CEH, 2013-2017) and Super-Bee FA1307 (Coordinator: K. Beismeyer, Naturalis Biodiversity Center, 2014-2018). Spanish Manager Committee Member: **M. Vilà**.
- Pollinator responses to global change and its implications for ecosystem functioning (BeeFun), PCIG14-GA-2013-631653, PI: **M. Vilà**, 100k € (2014-2016).
- Status and Trends of European Pollinators (STEP), EU 244090. PI: S. Potts, Task leader for relevant pressures on European pollinators: **M. Vilà**. 121k € (2010-2014).
- Biodiversity and Climate Change, a Risk Analysis (BACCARA), EU 226299, PI: H. Jactel, Task leader for forest inventory analysis: **M. Vilà**. 79k € (2009-2012).

C.3. Contracts

- Biological invasions and climate change in Europe: risk analysis and opportunities. Contract with Fundación Iberdrola PI: **M. Vilà** (2014-2015)
- Invasive Alien Species - Prioritising prevention efforts through horizon scanning. Contract with European Commission ENV.B.2/ETU/2014/0016. Coordinator: H. Roy (CEH, October 2014-July 2015), Subcontracted expert: **M. Vilà**.
- EU EASIN. European Alien Species Information Network (EASIN) – update and alignment to a recent reclassification of pathways by the Convention for Biological Diversity. Contract with European Commission ENV.B.2/SER/2015/0037rl. Coordinator: H. Roy (CEH, November 2015-September 2016). Subcontracted expert: **M. Vilà**.

C.4. Recent institutional service

- 2012. Member of the Natural Resources Area Committee (CSIC)
- 2009- 2012. Head of the Department of Integrative Ecology (EBD-CSIC)
- 2012-2015. Deputy Director, Estación Biológica de Doñana (EBD-CSIC)
- 2017- 2018. Coordinator of proposal evaluations in Plant Biology, Animal Biology and Ecology area at the Spanish National Research Agency
- 2017- present. Member of the Scientific Committee on Flora and Fauna for the Spanish Ministry for Ecological Transition

C.5. Recent international service

- 2011- present. IUCN SSC Invasive Species Specialist Group Member.
- 2012. Member of the Discussion Forum on alien species in wildlife trade, experiences in the use of biological control agents and development of decision support tools for management of invasive alien species". Convention of Biological Diversity (CBD) Secretariat.

- 2013. Chair of the Evaluation Commity BiodivERsA call on "Invasive Species and Biological Invasions".
- 2014- present. President of the European Working Group on Biological Invasions (NEOBIOTA).
- 2014. Reviewer for GBO-4 technical background document on Aichi Biodiversity Target 9: Invasive alien species, UNEP.
- 2014. Member of the Expert Commission for Risk analysis of apple snail in Europe, EFSA.
- 2015-present. Member of the Scientific Forum of the European Regulation on Alien Invasive Species.
- 2017, 2019. Panel member for LS8 ERC Consolidator Grants.
- 2017- present. Jury member for the Ramon Margalef prize in Ecology

C.6. Editorial service

Associate editor Bioscience (2019-present), Ecology Letters (2012-present), NEOBIOTA (2010-present), Biological Invasions (2009-present).

C.7. Recent organization of international meetings and conferences

- MEDECOS XIV & XIII AEET Meeting Co-chair. Sevilla, 2017.
- European Conference on Biological Invasions (NEOBIOTA). Scientific Commity: Copenhagen (Denmark), 2010; Pontevedra (Spain), 2012; Antalya (Turkey), 2014; Vianden (Luxembourg), 2016; Dublin, 2018
- Developing a priority list of invasive alien species in Europe Workshop, Sevilla, 2015.
- XIII MEDECOS International Conference Scientific Commity. Olmué, Chile, 2014.
- Adapting to Global Change in the Mediterranean hotspot: from genes to ecosystems (EcoGenes). Organizing and Scientific Commity. Sevilla, 2013.

C.8. Recent proposal evaluation and committees

Deutsche Forschungsgemeinschaft, Swiss National Research Foundation, Research and Innovation SERI in Switzerland, Fundación Banco Bilbao Vizcaya, South Africa's National Research Foundation, Research Foundation Flanders, Comisión Nacional de Investigación Científica y Tecnológica, Ministerio de Educación de Chile, Sino-German Center for Research Promotion, Finland Academy of Sciences.

C.9. Teaching, student advisor and mentorship

- 2019- present. Associate professor at the Department of Plant Biology and Ecology, University of Seville.
- 1992-2006. Professor of ecology to undergraduate and graduate students (240 h/yr) at Universitat Autònoma de Barcelona (UAB).
- PhD thesis advisor: Isabel Gimeno (2005), Roser Doménech (2005), Ignasi Bartomeus (2008), Núria Gassó (2008), Amparo Carrillo (2011), Jara Andreu (2012), Ana Montero (2014), Pablo González-Moreno (2015), Alejandro Trillo (2019), Carlos Zaragoza (In progres), Álvaro Bayón (In progres), Javier Galán (In progres).
- Regular host for national and international undergraduate and graduate students (Erasmus +, Leonardo, COST programs, Fundación Carolina, etc.).