

Part A. Personal Information		DATE	Nov. 2021
Surname(s)	Vilà		
Forename	Montserrat		
ID number	40462147H		
Sex	woman		
Age	56		
Researcher numbers	Researcher ID	D-9339-2013	
	Open Researcher and Contributor ID (ORCID)	0000-0003-3171-8261	

A.1. Current position

Professional Category	Research professor OPIS		
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	Estación Biológica de Doñana (EBD-CSIC)		
	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)

1988	Universitat Autònoma de Barcelona (UAB)	B.S. Biology	
1993	UAB	PhD. Biology	Title: Effect of competition in resprouting, growth and flowering of <i>Erica multiflora</i> L. after disturbances
1994-1996	University of California, Berkeley	Post doctorate	Title: Invasion ecology of <i>Carpobrotus</i> hybrids

A.3. Indicators of Quality in Scientific Production

- Among the top 1% researchers for most cited documents in the Ecology/Environment field for the last 8 years (2014-2021) according to Clarivate Analytics
- ISI publications: 200 (>90% Q1 Ecology/Plant Sciences/Environmental Sciences); books edited: 7; book chapters: 40; outreach publications: > 30
- SCOPUS: 22009 citations (h = 65), Google Scholar: 36508 citations (h = 82)
- “Sexenios de investigación”: 5; “Sexenios de transferencia de conocimiento”: 1
- 2020 Distinction in Ecology Luís Balaguer and Honorary member of the Spanish Association of Terrestrial Ecology (AEET)
- 2020 North-South Prize from the Council of Europe to the Mediterranean Experts on Climate and Environmental Change (MedECC) network
- 2021 Mercer Award of the Ecological Society of America
- 2021 Member of the Sevilla Royal Academy of Sciences
- 2021 National Research Award Alejandro Malaspina in the area of Sciences and Technologies of Natural Resources

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 biotic homogenization. We investigate the ecology of biological invasions by non-native organisms in the following research areas:

(1) Description of macroecological patterns of invasions. We 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. 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. 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 non-native 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. For instance, 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 research 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.

See <http://www.montsevila.org>, https://www.researchgate.net/profile/Montserrat_Vila

Part C. Accomplishments

C.1. Ten recent selected publications

Vilà M et al. (11/1) 2021. Viewing emerging human infectious epidemics through the lens of invasion biology. *BioScience* 71: 722-740.

Bradley BA et al. (10/11) 2019. Disentangling the abundance-impact relationship for invasive species. *PNAS* 116: 9919-9924.

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, M I 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.

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. Recent 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). ERANET-BIODIVERSA PCI2018-092939. PI: **M. Vilà** (2019-2022).
- The other side of invasibility: vulnerability of recipient ecosystems. National Center for Ecological Synthesis (NCEAS) and National Science Foundation of the US. PI: B. Bradley & I. Ibáñez (2019-2021).
- 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** (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** (2014-2016).
- Status and Trends of European Pollinators (STEP), EU 244090. PI: S. Potts, Task leader for relevant pressures on European pollinators: **M. Vilà** (2010-2014).

C.3. Recent contracts

- Ecological implications of commercial bumblebee spillover in natural areas (ABEJORROS). BBVA Foundation PI: **M. Vilà** (2019-2021)
- Biological invasions and climate change in Europe: risk analysis and opportunities. Contract with Fundación Iberdrola PI: **M. Vilà** (2014-2015)
- EU Invasive Alien Species - Prioritising prevention efforts through horizon scanning. 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 CBD. ENV.B.2/SER/2015/0037rl. Coordinator: H. Roy (CEH, November 2015-September 2016). Subcontracted expert: **M. Vilà**.

C.4. Recent institutional service

- 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
- 2020-present. Coordinator of the theme on environmental impacts for the CSIC PTI-Global Health Platform
- 2020-present. Member of the Scientific Advisory Committee for CSIC

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, 2021. Panel member for LS8 ERC Consolidator Grants.
- 2017- 2020. Jury member for the Ramon Margalef prize in Ecology.
- 2019-present lead author for the IPBES Assessment on Biological invasions

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, University of Copenhagen.

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 supervisor:** 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 (2021), Álvaro Bayón (2021), Javier Galán (2021).
- Regular host for national and international undergraduate and graduate students (Erasmus +, Leonardo, COST programs, Fundación Carolina, etc.).