

CURRICULUM VITAE ABREVIADO (CVA)

Part A. PERSONAL INFORMATION

First name	ISABEL		
Family name	MUÑOZ GRACIA		

A.1. Current position

Position	Catedrática de Universidad		
Initial date	11/11/2018		
Institution	UNIVERSIDAD DE BARCELONA		
Department/Center	Biología evolutiva, ecología y ciencias ambientales	Facultad de Biología	
Country	Spain		
Key words	River ecology, invertebrates, food webs, water quality, ecotoxicology, Mediterranean rivers		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
2001 - 2018	Profesora Titular / Universidad de Barcelona
2000	Titular interina / Universitat de Barcelona
1996 - 1999	Profesora Asociada / Universidad de Barcelona
1992 - 1996	Profesora Ayudante Univ. / Universidad de Barcelona
1990 - 1992	Contratada Post-Doctoral
1986-1989	Becaria pre-doctoral FPI

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licensed	Universidad de Barcelona	1985
PhD	Universidad de Barcelona	1990

(Include all the necessary rows)

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Full Professor at the University of Barcelona (UB), she brings extensive expertise in the study of river systems, with a particular focus on the ecology of aquatic invertebrates. Her research spans both fundamental studies and applied research into river system management, supported by competitive national and European-scale projects.

Research focus. Over recent years, her research has primarily addressed:

- 1) Impact of global change on Mediterranean river invertebrates. Examining the effects of flow intermittency, regulation and eutrophication on community diversity, biochemical composition of organisms, trophic relationships, species traits and food web structure.
- 2) Effects of pollution on aquatic communities. Investigating the impact of emerging pollutants, including pharmaceuticals and endocrine-disrupting compound, at the individual, population, and community levels.

This extensive research contributes to evaluating the ecological quality of rivers and assessing the risks posed by various pressures on river systems. Field monitoring, *in situ* experiments and laboratory studies -using artificial river systems and microcosms- have been integral to these efforts.

Research Leadership. She has been the principal investigator at the UB of two European projects: Globaqua (contract number: 603629, www.globaqua.eu); Modelkey (contract 511237); one from the Spanish Consolider program (Scarce, CSD2009-00065); and ten

projects of the National R + D + i Plan (the last project PID2024-160068OB-C33). She leads a project under the Ecological and Digital Transition call from MICINN (TED2021-129966B-C33, <https://citypoll.eu/>) and participates in the research staff of an European project, Biodiversa & JPI Water Joint program (Restolink, <https://restolink.weebly.com/>).

Academic supervision and publications. She has supervised 12 doctoral theses, with two more in progress, as well as 20 master's theses. Over the last decade, she has published 75 papers (many in top indexed journal) and contributed seven book chapters.

Teaching and academic management. As a professor, she has coordinated courses in the degrees of Biology and Environmental Sciences. She has been coordinator of the Master in Fundamental and Applied Ecology (2007-12) and the Doctorate program of the same name (2012-2017). She held the position of Vice Dean of research at the Faculty of Biology (UB) from 2019 to 2022.

She is evaluator of research projects and researcher's careers for national and international agencies as ANEP, AQU, Czech Academy of Science, Deutsche Forschungsgemeinschaft, South African National research Foundation, Agence Nationale de la Reserche (France).

Member of the expert panels in different public calls and institutions.

She is the editor of the scientific journal *Limnetica* published by the Iberian Association of Limnology. With five certified research periods (last in 2023) and six periods for teaching.

Part C. RELEVANT MERITS (sorted by typology)

C.1. Publications (ten selected publications in the last years)

1. Pinilla-Rosa, M., **Muñoz, I.**, Oliva, F., Martinez-Sanz, I., Arias-Real, R., Wang, J.-T., & Menéndez, M. (2025). Can induced drying modulate the response of leaf litter decomposition and fungal diversity to wastewater effluents in permanent streams? *Functional Ecology*, 00, 1–13. <https://doi.org/10.1111/1365-2435.70157>
2. Boix, D., Bonada, N., **Muñoz, I.**, Baquero, E., Jordana, R., Cunillera-Montcusí, D., Sala, J. (2024). Class Hexapoda: general introduction. In *Identification and Ecology of Freshwater Arthropods in the Mediterranean Basin* (pp. 225-281). Elsevier. ISBN: 978-0-12-821844-0. <https://doi.org/10.1016/B978-0-12-821844-0.00019-3>
3. Viza, A., Arias-Real R., Menéndez, M., **Muñoz I.** (2024). The role of seedbanks and hyporheic refuges in supporting benthic invertebrate community resistance and resilience to dry phases. *Aquatic Sciences*. <https://doi.org/10.1007/s00027-023-01034-x>
4. Arias-Real, R., Menendez, M., **Muñoz, I.** & Pascoal, C. (2023). Drying shapes the ecological niche of aquatic fungi with implications on ecosystem functioning. *Science of The Total Environment*, 160374.
5. Arias-Real, R., Gutierrez-Cánovas, C., **Muñoz, I.**, Pascoal, C. & Menendez, M. (2022) *Fungal biodiversity mediates the effects of drying on freshwater ecosystem functioning*. *Ecosystems*, 25:780-794.
6. Mor, J.R.; **Muñoz, .I**; Sabater, S.; Zamora, L.; Ruhi, A. (2021) Energy limitation or sensitive predators? Trophic and non-trophic impacts of wastewater pollution on stream food webs. *Ecology*, 103: 1-13.
7. Arias-Real, R., Gutiérrez-Cánovas, C., Menéndez, M., Granados, V. & **Muñoz, I.** (2021). Diversity mediates the responses of invertebrate density to duration and frequency of rivers' annual drying regime. *Oikos*, 130:2148-2160
8. Arias-Real, R., **Muñoz, I.**, Gutierrez-Cánovas, C., Granados, V., López-Laseras, P., Menéndez, M. (2020) Subsurface zones in intermittent streams are hotspots of microbial decomposition during the non-flow period. *Science of the Total Environment* 703, 135485
9. **Muñoz, I.**, Abril, M., Casas-Ruiz, J.P., Casellas, M., Gómez-Gener, L., Marcé, R., Menéndez, M., Obrador, B., (...), Acuña, V. (2018). Does the severity of non-flow periods influence ecosystem structure and function of temporary streams? A mesocosm study. *Freshwater Biology* 63: 613-625

10. Mas-Martí, E.; Sanpera-Calbet, I.; **Muñoz, I.** (2017) Bottom-up effects of streambed drying on consumer performance through changes in resource quality. *Aquatic Sciences* 79, 719 - 731.

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

1. **Muñoz, I.**, De Castro, N., Herbera, X., Menéndez, M., Solis, M., Viza, A.. Diet Related Effects of the Pesticides Terbutylazine and Tebuconazole on Scraper and Shredder Freshwater Invertebrates. SETAC Europe 31st Annual meeting. 2021. Spain. Oral communication.
2. **Muñoz, I.**; De Castro-Catala, N.; Bellin, A.; Borrego, C.; Kalogianni, E.; Paunovic, M.; Sabater, S.. Biodiversity responses to multiple stressors in three European basins: bacteria, algae, macrophytes, invertebrates and fish. SFS. 2018. USA. Oral communication, special session co-organizer.
3. **Muñoz, I.**; de Castro-Català, N.; Bellin, A.; et al; Sabater, S.. Biodiversity and ecosystem changes to multiple pressures: from basin to experimental approach. Final Conference Globaqua European project. 2018. Spain. Invited/keynote talk.
4. **Muñoz, I.**; Abril, M.; Acuña, V.; et al; Sabater, S.. Severity of flow intermittency drives changes in sediment organic matter and microbial functioning: a stream mesocosm study. *Limnologia* 2016, XVIII Congress of the Iberian Association of Limnology. 2016. Spain. Oral communication.
5. **Muñoz, I.** Respuesta de las interacciones tróficas en sistemas fluviales bajo el efecto del cambio global. 3º Congreso latinoamericano de macroinvertebrados de agua dulce: biodiversidad y ecología funcional en el neotrópico. Santa Marta, Colombia. 2016. Plenary invited talk.
6. **Muñoz, I.**; de Castro, N.; Gaudes, A.; López-Doval, J.C.; Mas-Martí, E.; Sanpera, I.. Interannual hydrological variability in a Mediterranean stream: structural and functional responses of invertebrate community. XVI Congress of the Iberian Association of Limnology. 2012. Portugal. Oral communication.
7. **Muñoz, I.** Hydrology changes the food web structure in a Mediterranean intermittent stream. SIL (International Symposium on Lymnology).. 2007. Canada. Oral communication.
8. **Muñoz, I.**, Domenech, R. Gaudes, A.; López-Doval, J., Salvadó, H.. Effects of nutrient inputs on microfauna community in a pristine Mediterranean stream.. *American Society of Limnology and Oceanography*. 2005. Spain. Oral communication.
9. **Muñoz, I.**; Gaudes, A.; Artigas, J.; Romaní, A.M., Sabater, S.. Dynamics of litter colonization by meiofauna in a Mediterranean stream (NE Spain). 12th International Meiofauna Conference. 2004. Italy. Oral communication.
10. **Muñoz, I.** L'Ebre: l'apport des substances nutritives (C,N,P). Actes 3es Rencontres de l'Agence Regionale pour l'Environnement (P.A.C.A.). 1991. France. Invited/keynote talk

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1. **Título:** RIVHS: Desequilibrio hidrosedimentario, respuestas biofísicas y potencial de recuperación en ríos. **Entidad Financiadora:** MICIU-AEI, PID2024-160068OB-C33. **Importe:** 122.500,00 **Duración:** 2025- 2028 **Investigador principal:** Isabel Muñoz, Margarita Menéndez
2. **Título:** CITYPOLL. Impacto de la contaminación urbana sobre la biodiversidad fluvial durante eventos climáticos extremos. **Entidad financiadora:** Ministerio de Ciencia e Innovación (Proyectos de Transición Ecológica y Digital 2021). Ref: TED2021-129966B-C33. **Importe:** 161,200 €. **Duración:** 2022-2025 **Investigador principal:** Isabel Muñoz Gracia.
3. **Título:** RESTOLINK. Quantifying restoration success across biomes by linking biodiversity, multifunctionality and hydromorphological heterogeneity. **Entidad financiadora:** Biodiversa & JPI Water Joint Call 2020-2021. **Importe:** 167,708. €.

Duración: 2022–2025. **Investigador principal:** Coordinator: M. Brauns (UFZ); PI at UB: D. von Schiller.

4. **Título:** RIVSTRESS: Multiple stressors impacting rivers. **Entidad Financiadora:** MICIN-AEI, PID2020-115708RB-C21. **Importe:** 133.342,00 **Duración:** 2021- 2025 **Investigador principal:** Isabel Muñoz, Margarita Menéndez
5. **Título:** SPACESTREAM. Intermitencia espacial y temporal del flujo en sistemas fluviales: efectos en la estructura, funcionamiento y servicios ecosistémicos. **Entidad Financiadora:** M. de Economía y Competitividad, CGL2017-88640-C2-2-R **Importe:** 84700 **Duración:** 01/01/2018-31/12/2020 **Investigador principal:** Isabel Muñoz, Margarita Menéndez
6. **Título:** FUNSTREAM: Ecosistemas fluviales temporales y cambio global: efectos sobre la estructura y función del ecosistema **Entidad Financiadora:** MINECO. CGL2014-58760-C3-1-R **Importe:** 133100 **Duración:** 2015- 2017 **Investigador principal:** Isabel Muñoz, Margarita Menéndez
7. **Título:** Managing the effects of multiple stressors on aquatic ecosystems under water
8. scarcity (GLOBAQUA) **Entidad Financiadora:** Unión Europea. 7º Programa Marco. Contract: 603629 **Importe:** 256.893,00 **Duración:** 2014- 2019 **Investigador principal UB:** Isabel Muñoz Gracia
9. **Título:** SCARCE: Evaluación y predicción de los efectos del cambio global en la cantidad y calidad del agua en ríos ibéricos **Entidad Financiadora:** MINECO. Programa Consolider-Ingenio 2010 CSD2009-00065 **Importe:** 314.000,00 **Duración:** 2010- 2014 **Investigador principal UB:** Isabel Muñoz
10. **Título:** Models for assessing and forecasting the impact of environmental key pollutants on marine and freshwater ecosystems and biodiversity -MODELKEY **Entidad Financiadora:** Unión Europea. GOCE, contract 511237 **Importe:** 198.880 **Duración:** 2005-2010. **Investigador principal:** Isabel Muñoz Gracia

C.4. Contracts, technological or transfer merits, Include patents and other industrial or intellectual property activities (contracts, licenses, agreements, etc.) in which you have collaborated. Indicate: a) the order of signature of authors; b) reference; c) title; d) priority countries; e) date; f) Entity and companies that exploit the patent or similar information, if any.

Título: Desarrollo de actividades científicas en la pineda del Remolar

Entidad Financiadora: Ayuntamiento de Viladecans

Importe: 40.000,00 **Duración:** 2020-23

Investigador principal: I. Muñoz

Título: El papel de las grandes presas y la mini-hidráulica como sumideros y fuentes de carbono y su relevancia en la huella de carbono de la producción hidroeléctrica.

Entidad Financiadora: FUNDACION IBERDROLA

Importe: 20.000,00 **Duración:** 2015- 2016

Investigadores principales: Biel Obrador, I. Muñoz