Publications

1. Revues internationales

Meyer A., Billoir E., Archaimbault V., Mondy C.P., **Usseglio-Polatera P.** 2025. Individual and combined effects of design and inter-operator variability on stream ecological assessment. *Science of the Total Environment*, 974, 179218. *https://doi.org/10.1016/j.scitotenv.2025.179218*

Beck M., Billoir E., **Usseglio-Polatera P.**, Meyer A., Gautreau E., Danger M. 2024. Effects of water nutrient concentrations on stream macroinvertebrate community stoichiometry: a large-scale study. *PCI Ecology*, 4, e69. *https://doi.org/10.24072/pcjournal.441*

Kunz S., Kefford B.J., **Usseglio-Polatera P.**, Hawkins C.P., Poff N.L., Akawagwuna F., Odume N., Schmidt-Kloiber A., Graf W., Metzeling L., Matthaei C.D., Phillips N., Schäfer R. 2024. Similarity of stream insect trait profiles across biogeographic regions. *Diversity & Distributions*, 30, e13812. *https://doi.org/10.1111/ddi.13812*

Labat F. & **Usseglio-Polatera P.** 2023. A new bioassessment multimetric index (BECOME) and diagnostic tool (BECOMEd) for small standing waters. *Ecological Indicators*, 154,110831. *https://doi.org/10.1016/j.ecolind.2023.110831*

Leclerc C., Reynaud N., Danis P.-A., Moatar F., Daufresne M., Argillier C., **Usseglio-Polatera P.**, Verneaux V., Dedieu N., Frossard V. & Sentis A. 2023. Temperature, productivity and habitat characteristics collectively drive lake food web structure. *Global Change Biology*, 29, 2450-2465. *https://doi.org/10.1111/gcb.16642*

Beck M., Billoir E., Floury M., **Usseglio-Polatera P.** & Danger M. 2023. A 34-year survey under phosphorous decline and warming: Consequences on stoichiometry and functional trait composition of freshwater macroinvertebrate communities. *Science of the Total Environment*, 858, 159786. *http://dx.doi.org/10.1016/j.scitotenv.2022.159786*

Venkatamaranan A., Faure-Giovagnoli P., Regan C., Heudre D., Figus C., **Usseglio-Polatera P.**, Pradalier C. & Laviale M. 2023. Usefulness of synthetic datasets for diatom automatic detection using a deep-learning approach. *Engineering Applications: Artificial Intelligence*, 117, 105594. *https://doi.org/10.1016/j.engappai.2022.105594*

Beck M., Billoir E., Felten V., Meyer A., **Usseglio-Polatera P.** & Danger M. 2022. Lessons from linking bio- and ecological traits to stoichiometric traits in stream macroinvertebrates. *Ecology and Evolution*, 12, e9605. *https://doi.org/10.1002/ece3.9605*

Jupke J.F., Birk S., Alvarez-Cabria M., Aroviita J., Barquin P., Belmar O., Bonada N., Caňedo-Argüelles M., Chiriac G., Misikova E., Feld C.K., Ferreira M.T., Haase P., Huttunen K.-L., Lazaridou M., Lestakova M., Miliša M., Muotka T., Paavola R., Panek P., Pařil P., Peeters E.T.H.M., Polášek M., Sandin L., Schmera D., Straka M., **Usseglio-Polatera P.** & Schäfer R.B. 2022. Evaluating the biological validity of European freshwater typology systems with least disturbed invertebrate communities. *Science of the Total Environment*, 842, 156689. *http://dx.doi.org/10.1016/j.scitotenv.2022.156689*

Kengne Fotsing J., Foto Menbohan S., Meyer A., Leprêtre A. & **Usseglio-Polatera P.**, 2022. Relationships between physico-chemical parameters and taxonomic structure of benthic macroinvertebrate assemblages in streams of West Cameroon. *Water*, 14, 1490. *https://doi.org/10.3390/w14091490*

Kunz S., Kefford B.J., Schmidt-Kloiber A., Matthaei C.D., **Usseglio-Polatera P.**, Graf W., Poff N.L., Metzeling L., Hawkins C.P. & Schäfer R. 2022. Tackling inconsistencies among freshwater invertebrate trait databases: Harmonising across continents and aggregating taxonomic resolution. *Freshwater Biology*, 67, 275-291. *https://doi.org/10.1111/fwb.13840*

Beck M., Billoir E., Felten V., Meyer A., **Usseglio-Polatera P.** & Danger M. 2022. A database of West-European headwater macroinvertebrate stoichiometric traits. *Global Ecology & Biogeography*, 31 (1), 4-9. *https://doi.org/10.1111/geb.13413*

Meyer A., Alric B., Dézerald O., Billoir E., Coulaud R., Larras F., Mondy C.P. & **Usseglio-Polatera P.** 2022. Linking micropollutant modes of action to trait syndromes across freshwater diatom, macroinvertebrate and fish assemblages.

Water, 14, 1184. *https://doi.org/10.3390/w14081184*

Jabiol J., Chauvet E., Guérold F., Bouquerel J., **Usseglio-Polatera P.**, Artigas J., Margoum C., Le Dréau M., Moreira A., Mazzella N. & Gouy V. 2022. The combination of chemical, structural, and functional indicators to evaluate the anthropogenic impacts on agricultural stream ecosystems. *Environmental Science and Pollution Research*, 29, 29296–29313. *https://doi.org/10.1007/s11356-021-16925-5*

Crabot* J., Mondy* C.P., **Usseglio-Polatera P.**, Bogan M.T., Fritz K.M., Greenwood M., Meyer E.I., Wood P.J. & Datry T. 2021. A global perspective on the functional responses of stream communities to flow intermittence. *Ecography*, 44, 1511-1523. *https://doi.org/10.1111/ecog.05697* (* co-premiers auteurs)

Cébron A., Zeghal E., **Usseglio-Polatera P.**, Meyer A., Bauda P., Lemmel F., Leyval C. & Maunoury-Danger F. 2021. BactoTraits – A functional trait database to evaluate how natural and man-induced changes influence the assembly of bacterial communities. *Ecological Indicators*, 130, 108047. *https://doi.org/10.1016/j.ecolind.2021.108047*

Beck* M., Mondy* C.P., Danger M., Billoir E. & **Usseglio-Polatera P.** 2021. Extending the growth rate hypothesis to species development: Can stoichiometric traits help to explain the composition of macroinvertebrate communities? *Oikos*, 130 (6), 879-892. *https://doi.org/10.1111/oik.08090* (* = co-premiers auteurs)

Alric B., Dézerald O., Meyer A., Billoir E., Coulaud R., Larras F., Mondy C.P. & **Usseglio-Polatera P.** 2021. How recent diatom-, invertebrate- and fish-based tools can support the ecological diagnosis of rivers in a multi-pressure context: temporal trends over the past two decades in France. *Science of the Total Environment*, 762, 143915. *https://doi.org/10.1016/j.scitotenv.2020.143915*

Martini S., Larras F., Boyé A., Faure E., Aberle N., Archambault P., Bacouillard L., Beisner B.E., Bittner L., Castella E., Danger M., Gauthier O., Karp-Boss L., Lombard F., Maps F., Stemmann L., Thiébaut E., **Usseglio-Polatera P.**, Vogt M., Laviale M. & Ayata S.-D. 2021. Functional trait-based approaches as a common framework for aquatic ecologists. *Limnology & Oceanography*, 66, 965-994. *https://doi.org/10.1002/lno.11655*

Destoumieux-Garzón D., Bonnet P., Teplitsky C., Criscuolo F., Henry P.-Y., Mazurais D., Prunet P., **Usseglio-Polatera P.**, Verrier E. & Friggens N.C. 2021. Animal board invited review: OneARK: Strengthening the links between animal production science and animal ecology. *Animal: The international journal of animal bioscience*, 15, 100053. *https://doi.org/10.1016/j.animal.2020.100053*

Ficetola G.F., Boyer F., Valentini A., Bonin A., Meyer A., Dejean T., Gaboriaud C., **Usseglio-Polatera P.** & Taberlet P. 2021. Comparison of markers for the monitoring of freshwater benthic biodiversity through DNA metabarcoding. *Molecular Ecology*, 30 (13) 3189-3202. *https://doi.org/10.1111/mec.15632*

Meyer A., Boyer F., Valentini A., Bonin A., Ficetola G.F., Beisel J.N., Bouquerel J., Wagner P., Gaboriaud C., Leese F., Dejean T., Taberlet P. & **Usseglio-Polatera P.** 2021. Morphological vs. DNA metabarcoding approaches for the evaluation of stream ecological status with benthic invertebrates: Testing different combinations of markers and strategies of data filtering. *Molecular Ecology*, 30 (13) 3203-3220. *https://doi.org/10.1111/mec.15723*

Sarremejane R., Cid N., Stubbington R., Datry T., Alp M., Cañedo-Argüelles M., Cordero-Rivera A., Csabai Z., Gutiérrez-Cánovas C., Heino J., Forcellini M., Millán A., Paillex A., Pařil P., Polášek M., Tierno de Figueroa J.M., **Usseglio-Polatera P.**, Zamora-Muñoz C. & Bonada N. 2020. DISPERSE, a trait database to assess the dispersal potential of European aquatic macroinvertebrates. *Scientific Data*, 7, 386.
https://doi.org/10.1038/s41597-020-00732-7

Wilkes M.A., Edwards F., Jones J.I., Murphy J.F., England J., Friberg N., Hering D., Poff N.L., **Usseglio-Polatera P.**, Verberk W.C.E.P., Webb J. & Brown L.E. 2020. Trait-based ecology at large scales: Assessing functional trait correlations, phylogenetic constraints and spatial variability using open data. *Global Change Biology*, 26 (12), 7255-7267. *https://doi.org/10.1111/gcb.15344*

Larras F. & **Usseglio-Polatera P.** 2020. Heterogeneity in invertebrate sampling strategy introduces variability in community characterization and stream trait-based biomonitoring: influence of sampling effort and habitat selection criteria. *Ecological Indicators*, 119, 106758. *https://doi.org/ 10.1016/j.ecolind.2020.106758*

Magliozzi C., Meyer A., **Usseglio-Polatera P.**, Robertson A. & Grabowski R. 2020. Investigating invertebrate biodiversity around large wood: taxonomic vs functional metrics. *Aquatic Sciences*, 82, 69. *https://doi.org/10.1007/s00027-020-00745-9*

Merg M.-L., Dézerald O., Kreutzenberger K., Demski S., Reyjol Y., **Usseglio-Polatera P.** & Belliard J. 2020. Modeling diadromous fish loss from historical data: identification of anthropogenic drivers and testing of mitigation scenarios. *PLOsOne*, 15(7), e0236575. *https://doi.org/10.1371/journal.pone.0236575*

Várbíró G., Borics G., Novais M.H., Morais M.M., Rimet F., Bouchez A., Tapolczai K., Bácsi I., **Usseglio-Polatera P.** & B-Béres V. 2020. Environmental filtering and limiting similarity as main forces driving diatom community structure in Mediterranean and Continental intermittent and perennial streams. *Science of the Total Environment*, 741, 140459. *https://doi.org/10.1016/j.scitotenv.2020.140459*

Dézerald O., Mondy C.P., Dembski S., Kreutzenberger K., Reyjol Y, Chandesris A., Valette L., Brosse S., Toussaint A., Belliard J., Merg M.L. & **Usseglio-Polatera P.** 2020. A diagnosis-based approach to assess specific risks of river degradation in a multiple pressure context: insights from fish communities. *Science of the Total Environment*, 734, 139467. *https://doi.org/10.1016/j.scitotenv.2020.139467*

Destoumieux-Garzón D., Bonnet P., Teplitsky C., Criscuolo F., Henry P.-Y., Mazurais D., Prunet P., Salvat G., **Usseglio-Polatera P.**, Verrier E. & Friggens N.C 2020. OneARK: Strengthening the links between animal production science and animal ecology. *Peer-Reviewed and Recommended by PCI Animal Science*. *https://doi: 10.5281/zenodo.3632731.*

Magliozzi C., **Usseglio-Polatera P.**, Meyer A. & Grabowski R. 2019. Functional traits of hyporheic and benthic invertebrates reveal importance of wood-driven geomorphological processes in rivers. *Functional Ecology*, 33, 1758-1770. *https://doi: 10.1111/1365-2435.13381*

Desrosiers M, **Usseglio-Polatera P.**, Archaimbault V., Larras F., Méthot G. & Pinel-Alloul B. 2019. Assessing anthropogenic pressure in the St. Lawrence River using traits of benthic macroinvertebrates. *Science of the Total Environment*, 649, 233-246. *https://doi.org/10.1016/j.scitotenv.2018.08.267*

Arce-Funck J., Crenier C., Danger M., Billoir E., **Usseglio-Polatera P.** & Felten V. 2018. High stoichiometric food quality increases moulting organism vulnerability to contaminant impacts: An experimental test with *Gammarus fossarum* (Crustacea: Amphipoda). *Science of the Total Environment*, 645, 1484-1495.
https://doi.org/10.1016/j.scitotenv.2018.07.227

Villeneuve B., Piffady J., Valette L., Souchon Y. & **Usseglio-Polatera P.** 2018. Direct and indirect effects of multiple stressors on stream fauna across watershed, reach and site scale: a structural equation modelling better informing on hydromorphological impacts. *Science of the Total Environment*, 612, 660-671.
https://doi.org/10.1016/j.scitotenv.2017.08.197

Corneil D., Villeneuve B., Piffady J., Chandesris A., **Usseglio-Polatera P.** & Souchon Y. 2018. Introducing nested spatial scales in multi-stress models: towards better assessment of human impacts on river ecosystems. *Hydrobiologia*, 806, 347-361. *https://doi.org/10.1007/s10750-017-3374-1*

Latli A., Descy J.-P., Mondy C.P., Floury M, Viroux L., Otjacques W., Marescaux J., Depiereux E., Ovidio M., **Usseglio-Polatera P.** & Kestemont P. 2017. Long-term trends in trait structure of riverine communities facing predation risk increase and trophic resource decline. *Ecological Applications*, 27 (8), 2458-2474. *https://doi.org/10.1002/eap.1621*

Larras F., Billoir E., Gautreau E., Coulaud R., Rosebery J. & **Usseglio-Polatera P.** 2017. Assessing anthropogenic pressures on streams: a random forest approach based on benthic diatom communities. *Science of the Total Environment*, 586, 1101-1112. *https://doi.org/10.1016/j.scitotenv.2017.02.096*

Floury M., **Usseglio-Polatera P.**, Delattre C. & Souchon Y. 2017. Assessing long-term effects of multiple, potentially confounded drivers in ecosystems from species traits. *Global Change Biology*, 23, 2297-2307. *https://doi.org/10.1111/gcb.13575*

Elbrecht V., Taberlet P., Dejean T., Valentini A., **Usseglio-Polatera P.**, Beisel J.-N., Coissac E., Boyer F. & Leese F. 2016. Testing the potential of a ribosomal 16S marker for DNA metabarcoding of insects. *PEERJ*, 4, e1966. *https://doi.org/10.7717/peerj.1966*

Vellinger C., Sohm B., Parant M., Immel F. & **Usseglio-Polatera P.** 2016. Investigating the emerging role of comparative proteomics in the search for new biomarkers of metal contamination under varying abiotic conditions. *Science of the Total Environment*, 562, 974-986. *https://doi.org/10.1016/j.scitotenv.2016.04.016*

Villeneuve B., Souchon Y., **Usseglio-Polatera P.**, Ferréol M. & Valette L. 2015. Can we predict biological condition of stream ecosystems? A multi-stressors approach linking three biological indices to physico-chemistry, hydromorphology and land use. *Ecological Indicators*, 48, 88-98. *https://doi.org/10.1016/j.ecolind.2014.07.016*

Reyjol Y., Argillier C., Bonne W., Borja A., Buijse A.D., Cardoso A.C., Daufresne M., Kernan M., Ferreira M.T., Poikane S., Prat N., Solheim A.-L., Stroffek S., **Usseglio-Polatera P.**, Villeneuve B. & van de Bund W. 2014. Assessing the ecological status in the context of the European water framework directive (WFD): where should we go now? *Science of the Total Environment*, 497/498, 332-344. *https://doi.org/10.1016/j.scitotenv.2014.07.119*

Malaj E., Von der Ohe P.C., Grote M., Kühne R., Mondy C.P., **Usseglio-Polatera P.**, Brack W. & Schäfer R.B. 2014. Organic chemicals jeopardise freshwater ecosystems health on the continental scale. *Proceedings of the National Academy of Sciences of the United States of America* (PNAS), 111 (26) 9549-9554. *https://doi.org/10.1073/pnas.1321082111*

Arce E., Archaimbault V., Mondy C.P. & **Usseglio-Polatera P.** 2014. Recovery dynamics in invertebrate communities following water-quality improvement: taxonomy- vs trait-based assessment. *Freshwater Science*, 33 (4), 1060-1073. *https://doi.org/10.1086/678673*

Mondy C.P. & **Usseglio-Polatera P.** 2014. Using fuzzy-coded traits to elucidate the non-random role of anthropogenic habitat alteration in functional homogenization. *Freshwater Biology*, 59, 584-600. *https://doi.org/10.1111/fwb.12289*

Descloux S., Datry T. & **Usseglio-Polatera P.** 2014. Trait based structure of invertebrates along a gradient of sediment colmation: benthos versus hyporheos responses. *Science of the Total Environment*, 466/467, 265-276. *https://doi.org/10.1016/j.scitotenv.2013.06.082*

Vellinger C., Gismondi E., Felten V., Rousselle P., Mehennaoui K., Parant M. & **Usseglio-Polatera P.** 2013. Single and combined effects of cadmium and arsenate in *Gammarus pulex* (Crustacea, Amphipoda): understanding the links between physiological and behavioural responses. *Aquatic Toxicology*, 140/141, 106-116. *https://doi.org/10.1016/j.aquatox.2013.05.010*

Mondy C.P. & **Usseglio-Polatera P.** 2013. Using conditional tree forests and life history traits to assess specific risks of stream degradation under multiple pressure scenario. *Science of the Total Environment*, 461/462, 750-760. *https://doi.org/10.1016/j.scitotenv.2013.05.072*

Floury M., **Usseglio-Polatera P.**, Ferréol M., Delattre C. & Souchon Y. 2013. Global climate change in large European rivers: long-term effects on macroinvertebrate communities and potential local confounding factors. *Global Change Biology*, 19 (4) 1085-1099. *https://doi.org/10.1111/gcb.12124*

Colas F., Baudoin J.-M., Danger M., **Usseglio-Polatera P.**, Wagner P. & Devin S. 2013. Synergistic impacts of sediment contamination and dam presence on river functioning. *Freshwater Biology*, 58 (2), 320-336 *https://doi.org/10.1111/fwb.12060*

Vellinger C., Felten V., Sornom P., Rousselle P., Beisel J.-N. & **Usseglio-Polatera P.** 2012. Behavioural and physiological responses of *Gammarus pulex* exposed to cadmium and arsenate at three temperatures: individual and combined effects. *Plos One*, 7 (6), e39153. *https://doi.org/10.1371/journal.pone.0039153*

Vellinger C., Parant M., Rousselle P. & **Usseglio-Polatera P.** 2012. Antagonistic toxicity of arsenate and cadmium in a freshwater amphipod (*Gammarus pulex*). *Ecotoxicology*, 21 (7), 1817-1827. *https://doi.org/10.1007/s10646-012-0916-1*

Demars B.O.L., Kemp J.L., Friberg N., **Usseglio-Polatera P.** & Harper D.M. 2012. Linking habitats to invertebrates in rivers: biological traits, taxonomic composition and diversity. *Ecological Indicators*, 23, 301-311. *https://doi.org/10.1016/j.ecolind.2012.04.011*

Mondy C.P., Villeneuve B., Archaimbault V. & **Usseglio-Polatera P.** 2012. A new macroinvertebrate-based multimetric index (I2M2) to evaluate ecological quality of French wadeable streams fulfilling the WFD demands: a taxonomical and trait approach. *Ecological Indicators*, 18, 452-457. *https://doi.org/10.1016/j.ecolind.2011.12.013*

Artigas J., Arts G., Babut M., Barra Caracciolo A., Charles S., Chaumot A., Combourieu B., Dahllöf I., Despréaux D., Ferrari B., Friberg N., Garric J., Geffard O., Gourlay-Francé C., Hein M., Hjorth M., Krauss M., De Lange M., Lahr J., Lehtonen K., Lettieri T., Liess M., Lofts S., Mayer P., Morin S., Paschke A., Svendsen C., **Usseglio-Polatera P.**, van den Brink N., Vindimian E. & Williams R. 2012. Towards a renewed research agenda in ecotoxicology. *Environmental Pollution*, 160 (1), 201-206. *https://doi.org/10.1016/j.envpol.2011.08.011*

Vellinger C., Parant M., Immel F., Rousselle P., Wagner P. & **Usseglio-Polatera P.** 2012. Comparison of arsenate and cadmium toxicity in a freshwater amphipod (*Gammarus pulex*). *Environmental Pollution*, 160 (1), 17-23. *https://doi.org/10.1016/j.envpol.2011.09.002*

Archaimbault V., **Usseglio-Polatera P.**, Garric J., Wasson J.-G. & Babut M. 2010. Assessing pollution of toxic sediment in streams using bio-ecological traits of benthic macroinvertebrates. *Freshwater Biology*, 55 (7), 1430-1446. *https://doi.org/10.1111/j.1365-2427.2009.02281.x*

Pinto P., Morais M., **Usseglio-Polatera P.**, Dias Figueiredo H., Martins A.C., Duque A.P., Goncalves C., Santo M. & Guilherme P. 2009. Seasonal and spatial gradients in biological and ecological traits of benthic macroinverterate communities in Mediterranean rivers from southern Portugal. *Verh. Internat. Verein. Limnol.*, 30 (8), 1197-1201. *https://doi.org/10.1080/03680770.2009.11923911*

Morais M., Pinto P., Pedro A., Battin T., Gafny S., Gérino M, Marti E., Puig M.A., Pusch M., Solimini A., Voreadou C., Sabater F. & **Usseglio-Polatera P.** 2009. Relationships among macroinvertebrate community structure, bio/ecological trait profiles and environmental descriptors in European human altered streams. *Verh. Internat. Verein. Limnol.*, 30 (8), 1234-1238. *https://doi.org/10.1080/03680770.2009.11923919*

Banas D., Masson G., Léglize L., **Usseglio-Polatera P.** & Boyd C.E. 2008. Assessment of sediment concentration and nutrients loads in effluents drained from extensively-managed fishponds in France. *Environmental Pollution*, 152, 679-685. *https://doi.org/10.1016/j.envpol.2007.06.058*

Tomanova. & **Usseglio-Polatera P.** 2007. Patterns of benthic community traits in neotropical streams: relationship to mesoscale spatial variability. *Fundamental & Applied Limnology/Archiv für Hydrobiologie*, 170, 243-255. *https://doi.org/10.1127/1863-9135/2007/0170-0243*

Furse M., Hering D., Moog O., Verdonschot P., Johnson R.K., Brabec K., Gritzalis K., Buffagni A., Pinto P., Friberg N., Murray-Bligh J., Kokes J., **Usseglio-Polatera P.**, Haase P., Sweeting R., Bis B., Szoszkiewicz K., Soszka F., Springe G, Sporka F. & Krno I. 2006. The STAR project: context, objectives and approaches. *Hydrobiologia*, 566, 3-29. *https://doi.org/10.1007/978-1-4020-5493-8_2*

Piscart C., **Usseglio-Polatera P.**, Moreteau J.-C. & Beisel J.-N. 2006. The role of salinity in the selection of biological traits of freshwater invertebrates. *Archiv für Hydrobiologie*, 166, 185-198.

https://doi.org/10.1127/0003-9136/2006/0166-0185

Lecerf A., **Usseglio-Polatera P.**, Charcosset J.-Y., Lambrigot D., Bracht B. & Chauvet E. 2006. Assessment of functional integrity of eutrophic streams using litter breakdown and benthic macroinvertebrates. *Archiv für Hydrobiologie*, 165, 105-126. *https://doi.org/10.1127/0003-9136/2006/0165-0105*

Ducrot V., **Usseglio-Polatera P.**, Péry A., Mouthon J., Lafont M., Roger M.-C., Garric J. & Férard J.-F. 2005. Using aquatic macroinvertebrate species traits to build test batteries for sediment toxicity assessment: accounting for the diversity of potential biological responses to toxicants. *Environmental Toxicology & Chemistry*, 24, 2306-2315. *https://doi.org/10.1897/04-559R.1*

Vanden Bossche J.P. & **Usseglio-Polatera P.** 2005. Characterization, ecological status and type-specific reference conditions of surface water bodies in Wallonia (Belgium) using biocenotic metrics based on benthic invertebrate communities. *Hydrobiologia*, 551, 253-271. *https://doi.org/10.1007/s10750-005-4465-y*

Archaimbault V., **Usseglio-Polatera P.** & Vanden Bossche J.P. 2005. Functional differences among benthic macroinvertebrate communities in reference streams of same order in a given biogeographic area. *Hydrobiologia*, 551, 171-182. *https://doi.org/10.1007/s10750-005-4459-9*

Devin S., Beisel J.-N., **Usseglio-Polatera P.** & Moreteau J.-C. 2005. Changes in functional biodiversity in an invaded freshwater ecosystem: the Moselle River. *Hydrobiologia*, 542, 113-120. *https://doi.org/10.1007/s10750-004-8771-6*

Piscart C., Lecerf A., **Usseglio-Polatera P.**, Moreteau J.-C. & Beisel J.-N. 2005. Biodiversity patterns along a salinity gradient: the case of net-spinning caddisflies. *Biodiversity & Conservation*, 14, 2235-2249. *https://doi.org/10.1007/s10531-004-4783-9*

Josens D., Bij de Vaate A., **Usseglio-Polatera P.**, Cammaerts R., Chérot F., Grisez F., Verboonen P. & Vanden Bossche P. 2005. Native and exotic Amphipoda and other Peracarida in the River Meuse: new assemblages emerge from a fast changing fauna. *Hydrobiologia*, 542, 203-220. *https://doi.org/10.1007/1-4020-4111-X_21*

Gayraud S., Statzner B., Bady P., Haybach A., Schöll F., **Usseglio-Polatera P.** & Bacchi M. 2003. Invertebrate traits for the biomonitoring of large European rivers: an initial assessment of alternative metrics. *Freshwater Biology*, 48, 2045-2064. *https://doi.org/10.1046/j.1365-2427.2003.01139.x*

Beisel J.-N., **Usseglio-Polatera P.**, Bachmann V. & Moreteau J.-C. 2003. A comparative analysis of evenness index sensitivity. *International Review of Hydrobiology*, 88, 3-15. *https://doi.org/10.1002/iroh.200390004*

De Crespin de Billy V. & **Usseglio-Polatera P.** 2002. Traits of brown trout prey in relation to habitat characteristics and benthic invertebrate communities. *Journal of Fish Biology*, 60, 687-714. *https://doi.org/10.1111/j.1095-8649.2002.tb01694.x*

Usseglio-Polatera P. & Beisel J.-N. 2002. Longitudinal changes in macroinvertebrate assemblages in the Meuse River: anthropogenic effects versus natural change. *River Research & Applications*, 18, 197-211. *https://doi.org/10.1002/rra.651*

Usseglio-Polatera P., Richoux P., Bournaud M., & Tachet H. 2001. A functional classification of benthic macroinvertebrates based on biological and ecological traits: application to river condition assessment and stream management. *Archiv für Hydrobiologie*, Suppl. 139/1, Monogr. Stud., 53-83.

Bachmann V., Beisel J.-N., **Usseglio-Polatera P.** & Moreteau J.-C. 2001. Decline of *Dreissena polymorpha* in the Moselle River: biotic and abiotic key factors involved in dynamics of invasive species. *Archiv für Hydrobiologie*, 151, 263-281. *https://doi.org/10.1127/archiv-hydrobiol/151/2001/263*

Dangles O., Guérold F. & **Usseglio-Polatera P.** 2001. Role of transported particulate organic matter in the macroinvertebrate colonization of litter bags in streams. *Freshwater Biology*, 46, 575-586.

https://doi.org/10.1046/j.1365-2427.2001.00693.x

Statzner B., Bis B., Dolédec S. & **Usseglio-Polatera P.** 2001. Perspectives for biomonitoring at large spatial scales: a unified measure for the functional composition of invertebrate communities in European running waters. *Basic and Applied Ecology*, 2, 73-85. https://doi.org/10.1078/1439-1791-00039

Usseglio-Polatera P., Bournaud M., Richoux P. & Tachet H. 2000. Biomonitoring through biological traits of benthic macroinvertebrates: how to use species trait data bases? *Hydrobiologia*, 422/423, 173-181.
https://doi.org/10.1007/978-94-011-4164-2_12

Beisel J.-N., **Usseglio-Polatera P.** & Moreteau J.-C. 2000. The spatial heterogeneity of a river bottom: a key factor determining macroinvertebrate communities. *Hydrobiologia*, 422/423, 163-171.
https://doi.org/10.1007/978-94-011-4164-2_13

Charvet S., Statzner B., **Usseglio-Polatera P.** & Dumont B. 2000. Traits of benthic macroinvertebrates in semi-natural French streams: an initial application to biomonitoring in Europe. *Freshwater Biology*, 43, 277-296.
https://doi.org/10.1046/j.1365-2427.2000.00545.x

Usseglio-Polatera P., Bournaud M., Richoux P. & Tachet H. 2000. Biological and ecological traits of benthic freshwater macroinvertebrates: relationships and definition of groups with similar traits. *Freshwater Biology*, 43, 175-205. *https://doi.org/10.1046/j.1365-2427.2000.00535.x*
- **Usseglio-Polatera P.**, Bournaud M., Richoux P. & Tachet H. 2000. Biological and ecological traits of benthic freshwater macroinvertebrates: relationships and definition of groups with similar traits. Revised data base (erratum). *Freshwater Biology*, 44, 563-568.

Bachmann V. & **Usseglio-Polatera P.** 1999. Contribution of the macrobenthic compartment to the dissolved oxygen budget of a large regulated river: the Mosel. *Hydrobiologia*, 410, 39-46.
https://doi.org/10.1023/A:1003787209940

Usseglio-Polatera P., Thomas S., Beisel J.-N. & Moreteau J.-C. 1999. Illustration de la valeur indicatrice des caractéristiques biologiques des macroinvertébrés d'une communauté benthique à différentes échelles d'observation. *Annales de Limnologie*, 35, 71-80. *https://doi.org/10.1051/limn/1999014*

Beisel J.-N., **Usseglio-Polatera P.**, Thomas S. & Moreteau J.-C. 1998. Stream community structure in relation to spatial variation: the influence of mesohabitat characteristics. *Hydrobiologia*, 389, 73-88.
https://doi.org/10.1023/A:1003519429979

Beisel J.-N., **Usseglio-Polatera P.**, Thomas S. & Moreteau J.-C. 1998. Influence de l'échantillonnage des communautés benthiques sur l'évaluation de la qualité biologique d'un cours d'eau. *Annales de Limnologie*, 34, 445-454. *https://doi.org/10.1051/limn/1998035*

Beisel J.-N., **Usseglio-Polatera P.**, Thomas S. & Moreteau J.-C. 1998. Effects of mesohabitat sampling strategy on the assessment of stream quality with benthic invertebrate assemblages. *Archiv für Hydrobiologie*, 142, 493-510. *https://doi.org/10.1127/archiv-hydrobiol/142/1998/493*

Bachmann V., **Usseglio-Polatera P.**, Cegielka E., Wagner P., Poinsaint J.F. & Moreteau J.-C. 1997. Premières observations sur la coexistence de *Dreissena polymorpha*, *Corophium curvispinum* et *Corbicula* spp. dans la rivière Moselle. *Bulletin français de la Pêche et de la Pisciculture*, 344/345, 373-384. *https://doi.org/10.1051/kmae:1997036*

Usseglio-Polatera P. 1997. Caractéristiques biologiques, stratégies écologiques et évolution environnementale d'un hydrosystème : l'exemple des Trichoptères (Insecta) du Rhône à Lyon (France). *Geobios*, 30 (2), 151-158. *https://doi.org/10.1016/S0016-6995(97)80082-4*

Beisel J.-N., Thomas S., **Usseglio-Polatera P.** & Moreteau J.-C. 1996. Assessing changes in community structure with dominance indices: a comparative analysis. *Journal of Freshwater Ecology*, 11, 291-299.

https://doi.org/10.1080/02705060.1996.9664451

Usseglio-Polatera P. & Tachet H. 1994. Theoretical habitat templets, species traits, and species richness: Plecoptera and Ephemeroptera in the Upper Rhône River and its floodplain. *Freshwater Biology*, 31, 357-376. *https://doi.org/10.1111/j.1365-2427.1994.tb01746.x*

Usseglio-Polatera P. 1994. Theoretical habitat templets, species traits, and species richness: aquatic insects in the Upper Rhône River and its floodplain. *Freshwater Biology*, 31, 417-438. *https://doi.org/10.1111/j.1365-2427.1994.tb01749.x*

Tachet H., **Usseglio-Polatera P.** & Roux C. 1994. Theoretical habitat templets, species traits, and species richness: Trichoptera in the Upper Rhône River and its floodplain. *Freshwater Biology*, 31, 397-416. *https://doi.org/10.1111/j.1365-2427.1994.tb01748.x*

Bournaud M., Richoux P. & **Usseglio-Polatera P.** 1992. An approach to the synthesis of qualitative ecological information from aquatic Coleoptera communities. *Regulated Rivers, Research & Management*, 7, 165-180. *https://doi.org/10.1002/rrr.3450070205*

Usseglio-Polatera P. & Bournaud M. 1989. Trichoptera and Ephemeroptera as indicators of environmental changes of the Rhone River at Lyons over the last twenty-five years. *Regulated Rivers, Research & Management*, 4, 249-262. *https://doi.org/10.1002/rrr.3450040304*

Usseglio-Polatera P. & Auda Y. 1987. Influence des facteurs météorologiques sur les résultats de piégeage lumineux. *Annales de Limnologie*, 23, 65-79. *https://doi.org/10.1051/limn/1987005*

Bournaud M., Arens M.F., Tachet H. & **Usseglio-Polatera P.** 1983. The problem of sampling Trichoptera in a large river. *Aquatic Insects*, 5, 167-172. *https://doi.org/10.1080/01650428309361140*

2. Revues nationales

Villeneuve B., Valette L., Ferréol M., Souchon Y., **Usseglio-Polatera P.** & Stroffek S. 2021. Réponse des indicateurs biotiques de cours d'eau aux pressions et extrapolation de l'état biologique aux masses d'eau non suivies. *Sciences, Eaux & Territoires*, Directive cadre européenne sur l'eau : Bilan de vingt années de recherche pour la reconquête de la qualité des masses d'eau, 37, 38-43.

Mondy C.P., Villeneuve B., Archaimbault V. & **Usseglio-Polatera P.** 2021. Une nouvelle génération d'indicateurs : l'exemple de l'indice invertébrés multimétrique I2M2. *Sciences, Eaux & Territoires*, Directive cadre européenne sur l'eau : Bilan de vingt années de recherche pour la reconquête de la qualité des masses d'eau, 37, 30-37.

Archaimbault V. & **Usseglio-Polatera P.** 2003. Variables trophiques et traits biologiques dans un peuplement macrobenthique : impact de la nature des perturbations sur sa diversité fonctionnelle. *Journal de Recherche Océanographique*, 28, 135-139.

Fossati O., Dumas P., Archaimbault V., Fernandez H., Rocabado G., Wasson J.G. & **Usseglio-Polatera P.** 2003. Deriving life traits from habitat characteristics: an initial application for Neotropical invertebrates from South America. *Journal de Recherche Océanographique*, 28, 158-162.

Bachmann V., Cegielka E., Wagner P., **Usseglio-Polatera P.** & Moreteau J.-C. 1995. Establishment of the amphipod *Corophium curvispinum* and the asiatic clam *Corbicula* sp. in the French part of the River Mosel. *Hydroécologie appliquée*, 7, 185-190.

Usseglio-Polatera P. 1991. Représentation graphique synthétique de la signification écologique d'un peuplement. Application aux macroinvertébrés du Rhône à Lyon. *Bulletin d'Ecologie*, 22, 195-202.

3. Ouvrages collectifs

Usseglio-Polatera P., Dézerald O. & Alric B. (Guest editors) 2021-22. Freshwater community responses to stress. Special Issue de la revue *Water*. (articles publiés au fil de l'eau)

Beisel J.N., Hoffmann L., Triest L. & **Usseglio-Polatera P.** (Guest editors) 2005. Ecology and disturbances of aquatic systems: *Proceedings of the 46th Congress of the French Limnological Association*, Special Issue « Biodiversity and aquatic ecosystems ». Metz (France), 2003. Springer, *Hydrobiologia*, 551, 271 p.

Tachet H., Richoux P., Bournaud M. & **Usseglio-Polatera P.** 2000. Invertébrés d'eau douce. Systématique, biologie, écologie. CNRS Editions, Paris, 588 p.
- rééditions avec modifications mineures en 2002, 2003 et 2006.
- réédition avec mise-à-jour significative en 2010.

4. Chapitres d'ouvrages

Descy J.P., Latli A., Roland F., Borges A.V., Lambert T, Morana C., Kestemont P., Joaquim-Justo C., Everbecq E., **Usseglio-Polatera P.**, Beisel J.-N., Verniers G. & Pigneur L.M. 2022. Chapter 5.1 3'Continental Atlantic Rivers : The Meuse, Loire and Adout-Garonne Basins », Subchapter 5.1.1 « The Meuse River Basin ». In Tockner K., Zarfl C. & Robinson C.T. (eds) « Rivers of Europe' » (second edition), pp. 230-244, Elsevier.

Venkataramanan A., Laviale M., Figus C., **Usseglio-Polatera P.**, Pradalier C. 2021. Tackling Inter-Class Similarity and Intra-Class Variance for Image-based Classification of aquatic microorganisms. *13th International Conference on Computer Vision Systems (ICVS 2021)*, Vienna (Austria), 22th-24th September 2021.

Usseglio-Polatera P. 2012. Science-Policy interface (SPI) & Ecological status: Where should we go now? Research issue 3. To analyse more carefully the links between ecotoxicological tools and biological assessment tools based on the structure of biological communities. Coordinator Y. Reyjol (ONEMA), pp. 18-24.

Descy J.P., Kestemont P., Everbeck E., Verniers G., **Usseglio-Polatera P.**, Gérard P., Viroux L. & Beisel J.-N. & Smitz L. 2009. Chapter 5.1 « The Meuse River Basin ». In Tockner K., Robinson C.T. & Uehlinger U. (eds) « Rivers of Europe' » (first edition), pp. 154-166.

Sandin L., Furse M., Hering D., Moog O., Verdonschot P., Johnson R. K., Brabec K., Gritzalis K., Buffagni A., Pinto P., Friberg N., Murray-Bligh J., Kokes J., Alber R., **Usseglio-Polatera P.**, Haase P., Sweeting R., Bis B., Szoszkiewicz K., Soszka F., Springe G., Sporka F. & Krno I. 2003. Standardisation of river classifications, a EU project contributing to the implementation of the Water Framework Directive. In Ruoppa M., Heinonen P., Pilke A., Rekolainen S., Toivonen H. & Vuoristo H. (eds) « How to assess and monitor ecological quality in freshwaters », pp. 53-56, Nordic Council of Ministers, Copenhagen, DK.

Beisel J.-N., **Usseglio-Polatera P.**, Thomas S. & Moreteau J.-C. 1998. A method to describe substrate heterogeneity at a microhabitat scale. First results on relationships with macroinvertebrate community structure. In « Advances in River Bottom Ecology », pp. 39-46, Bretschko G. & J. Helesik (eds), Backhuys Publ.

Bachmann V., **Usseglio-Polatera P.**, Moreteau J.-C. & Wagner, P. 1998. A new method to assess the contribution of the macrobenthic compartment to the dissolved oxygen budget of a large river. In « Advances in River Bottom Ecology », pp. 143-153, Bretschko G. & J. Helesik (eds), Backhuys Publ.

Usseglio-Polatera P. 1997. Long-term changes in the Ephemeroptera of the River Rhône at Lyon, France, assessed using a fuzzy coding approach. In « Ephemeroptera & Plecoptera, Biology, Ecology, Systematics », pp. 227-234, Sartori M. & P. Landolt (eds), Switzerland.