

# Sbastien Villger

## List of Publications by Citations

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93  
papers

8,078  
citations

35  
h-index

89  
g-index

104  
ext. papers

10,305  
ext. citations

6.4  
avg, IF

6.33  
L-index

#	Paper	IF	Citations
93	New multidimensional functional diversity indices for a multifaceted framework in functional ecology. <i>Ecology</i> , <b>2008</b> , 89, 2290-301	4.6	1647
92	A functional approach reveals community responses to disturbances. <i>Trends in Ecology and Evolution</i> , <b>2013</b> , 28, 167-77	10.9	946
91	Functional diversity measures: an overview of their redundancy and their ability to discriminate community assembly rules. <i>Functional Ecology</i> , <b>2010</b> , 24, 867-876	5.6	827
90	Defining and measuring ecological specialization. <i>Journal of Applied Ecology</i> , <b>2010</b> , 47, 15-25	5.8	458
89	Contrasting changes in taxonomic vs. functional diversity of tropical fish communities after habitat degradation <b>2010</b> , 20, 1512-22		343
88	Functional over-redundancy and high functional vulnerability in global fish faunas on tropical reefs. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 13757-62	11.5	279
87	Functional structure of biological communities predicts ecosystem multifunctionality. <i>PLoS ONE</i> , <b>2011</b> , 6, e17476	3.7	275
86	How many dimensions are needed to accurately assess functional diversity? A pragmatic approach for assessing the quality of functional spaces. <i>Global Ecology and Biogeography</i> , <b>2015</b> , 24, 728-740	6.1	222
85	Decomposing functional diversity reveals that low functional diversity is driven by low functional turnover in European fish assemblages. <i>Global Ecology and Biogeography</i> , <b>2013</b> , 22, 671-681	6.1	222
84	Rare species contribute disproportionately to the functional structure of species assemblages. <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>2016</b> , 283,	4.4	184
83	Homogenization patterns of the world's freshwater fish faunas. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 18003-8	11.5	150
82	Functional ecology of fish: current approaches and future challenges. <i>Aquatic Sciences</i> , <b>2017</b> , 79, 783-801	1.5	141
81	The multidimensionality of the niche reveals functional diversity changes in benthic marine biotas across geological time. <i>Ecology Letters</i> , <b>2011</b> , 14, 561-8	10	139
80	Toward a loss of functional diversity in stream fish assemblages under climate change. <i>Global Change Biology</i> , <b>2013</b> , 19, 387-400	11.4	130
79	Towards a consensus for calculating dendrogram-based functional diversity indices. <i>Oikos</i> , <b>2008</b> , 117, 794-800	4	119
78	Global functional diversity of freshwater fish is concentrated in the Neotropics while functional vulnerability is widespread. <i>Scientific Reports</i> , <b>2016</b> , 6, 22125	4.9	116
77	Disentangling the pathways of land use impacts on the functional structure of fish assemblages in Amazon streams. <i>Ecography</i> , <b>2018</b> , 41, 219-232	6.5	100

76	Low functional $\beta$ diversity despite high taxonomic $\beta$ diversity among tropical estuarine fish communities. <i>PLoS ONE</i> , <b>2012</b> , 7, e40679	3.7	96
75	Functional homogenization exceeds taxonomic homogenization among European fish assemblages. <i>Global Ecology and Biogeography</i> , <b>2014</b> , 23, 1450-1460	6.1	92
74	Quantifying the multiple facets of isotopic diversity: New metrics for stable isotope ecology. <i>Ecological Indicators</i> , <b>2015</b> , 56, 152-160	5.8	73
73	A Deep learning method for accurate and fast identification of coral reef fishes in underwater images. <i>Ecological Informatics</i> , <b>2018</b> , 48, 238-244	4.2	67
72	Human impacts on global freshwater fish biodiversity. <i>Science</i> , <b>2021</b> , 371, 835-838	33.3	65
71	Global mismatch between species richness and vulnerability of reef fish assemblages. <i>Ecology Letters</i> , <b>2014</b> , 17, 1101-10	10	62
70	Fish-SPRICH: a database of freshwater fish species richness throughout the World. <i>Hydrobiologia</i> , <b>2013</b> , 700, 343-349	2.4	60
69	Skin microbiome of coral reef fish is highly variable and driven by host phylogeny and diet. <i>Microbiome</i> , <b>2018</b> , 6, 147	16.6	59
68	High diversity of skin-associated bacterial communities of marine fishes is promoted by their high variability among body parts, individuals and species. <i>FEMS Microbiology Ecology</i> , <b>2015</b> , 91,	4.3	55
67	Predicting trophic guild and diet overlap from functional traits: statistics, opportunities and limitations for marine ecology. <i>Marine Ecology - Progress Series</i> , <b>2011</b> , 436, 17-28	2.6	52
66	High intraspecific variability in the functional niche of a predator is associated with ontogenetic shift and individual specialization. <i>Ecology and Evolution</i> , <b>2014</b> , 4, 4649-57	2.8	49
65	Worldwide freshwater fish homogenization is driven by a few widespread non-native species. <i>Biological Invasions</i> , <b>2016</b> , 18, 1295-1304	2.7	45
64	Meeting fisheries, ecosystem function, and biodiversity goals in a human-dominated world. <i>Science</i> , <b>2020</b> , 368, 307-311	33.3	45
63	Functional biodiversity loss along natural CO gradients. <i>Nature Communications</i> , <b>2018</b> , 9, 5149	17.4	44
62	Non-native species led to marked shifts in functional diversity of the world freshwater fish faunas. <i>Ecology Letters</i> , <b>2018</b> , 21, 1649-1659	10	42
61	Species contribute differently to the taxonomic, functional, and phylogenetic alpha and beta diversity of freshwater fish communities. <i>Diversity and Distributions</i> , <b>2014</b> , 20, 1235-1244	5	38
60	Functional diversity measures revealed impacts of non-native species and habitat degradation on species-poor freshwater fish assemblages. <i>Science of the Total Environment</i> , <b>2018</b> , 625, 861-871	10.2	37
59	Coral Reef Fish Detection and Recognition in Underwater Videos by Supervised Machine Learning: Comparison Between Deep Learning and HOG+SVM Methods. <i>Lecture Notes in Computer Science</i> , <b>2016</b> , 160-171	0.9	35

58	Non-native species modify the isotopic structure of freshwater fish communities across the globe. <i>Ecography</i> , <b>2015</b> , 38, 979-985	6.5	35
57	Historical assemblage distinctiveness and the introduction of widespread non-native species explain worldwide changes in freshwater fish taxonomic dissimilarity. <i>Global Ecology and Biogeography</i> , <b>2014</b> , 23, 574-584	6.1	34
56	Taxonomic and functional diversity increase the aesthetic value of coralligenous reefs. <i>Scientific Reports</i> , <b>2016</b> , 6, 34229	4.9	32
55	Biogeographical region and environmental conditions drive functional traits of estuarine fish assemblages worldwide. <i>Fish and Fisheries</i> , <b>2017</b> , 18, 752-771	6	31
54	Unexpected high vulnerability of functions in wilderness areas: evidence from coral reef fishes. <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>2016</b> , 283,	4.4	31
53	Mapping biodiversity in three-dimensions challenges marine conservation strategies: The example of coralligenous assemblages in North-Western Mediterranean Sea. <i>Ecological Indicators</i> , <b>2016</b> , 61, 1042-1054	5.8	30
52	An attribute-diversity approach to functional diversity, functional beta diversity, and related (dis)similarity measures. <i>Ecological Monographs</i> , <b>2019</b> , 89, e01343	9	30
51	Trait structure and redundancy determine sensitivity to disturbance in marine fish communities. <i>Global Change Biology</i> , <b>2019</b> , 25, 3424-3437	11.4	28
50	From current distinctiveness to future homogenization of the world's freshwater fish faunas. <i>Diversity and Distributions</i> , <b>2015</b> , 21, 223-235	5	27
49	Additive partitioning of diversity including species differences: a comment on Hardy & Senterre (2007). <i>Journal of Ecology</i> , <b>2008</b> , 96, 845-848	6	27
48	Colossal aggregations of giant alien freshwater fish as a potential biogeochemical hotspot. <i>PLoS ONE</i> , <b>2011</b> , 6, e25732	3.7	27
47	A Climate-Driven Functional Inversion of Connected Marine Ecosystems. <i>Current Biology</i> , <b>2018</b> , 28, 3654-3660	6.9	27
46	Combinations of biological attributes predict temporal dynamics of fish species in response to environmental changes. <i>Ecological Indicators</i> , <b>2015</b> , 48, 147-156	5.8	24
45	A global database of nitrogen and phosphorus excretion rates of aquatic animals. <i>Ecology</i> , <b>2017</b> , 98, 1475-1486	4.6	23
44	Functional rarity of coral reef fishes at the global scale: Hotspots and challenges for conservation. <i>Biological Conservation</i> , <b>2018</b> , 226, 288-299	6.2	21
43	On the risks of using dendrograms to measure functional diversity and multidimensional spaces to measure phylogenetic diversity: a comment on Sobral et al. (2016). <i>Ecology Letters</i> , <b>2017</b> , 20, 554-557	10	19
42	Captive bottlenose dolphins and killer whales harbor a species-specific skin microbiota that varies among individuals. <i>Scientific Reports</i> , <b>2017</b> , 7, 15269	4.9	19
41	Intra- and interspecific differences in nutrient recycling by European freshwater fish. <i>Freshwater Biology</i> , <b>2012</b> , 57, 2330-2341	3.1	19

40	Measuring changes in taxonomic dissimilarity following species introductions and extirpations. <i>Ecological Indicators</i> , <b>2012</b> , 18, 552-558	5.8	18
39	Fish communities diverge in species but converge in traits over three decades of warming. <i>Global Change Biology</i> , <b>2019</b> , 25, 3972-3984	11.4	17
38	Biogeographical, environmental and anthropogenic determinants of global patterns in bird taxonomic and trait turnover. <i>Global Ecology and Biogeography</i> , <b>2017</b> , 26, 1190-1200	6.1	17
37	Stable trophic structure across coastal nekton assemblages despite high species turnover. <i>Marine Ecology - Progress Series</i> , <b>2008</b> , 364, 135-146	2.6	16
36	Increased taxonomic and functional similarity does not increase the trophic similarity of communities. <i>Global Ecology and Biogeography</i> , <b>2016</b> , 25, 46-54	6.1	16
35	Morphological diversity of freshwater fishes differs between realms, but morphologically extreme species are widespread. <i>Global Ecology and Biogeography</i> , <b>2019</b> , 28, 211-221	6.1	16
34	Temporal changes in the taxonomic and functional diversity of fish communities in shallow Chinese lakes: the effects of river-lake connections and aquaculture. <i>Aquatic Conservation: Marine and Freshwater Ecosystems</i> , <b>2014</b> , 24, 23-34	2.6	13
33	Nutrient limitation, bioenergetics and stoichiometry: A new model to predict elemental fluxes mediated by fishes. <i>Functional Ecology</i> , <b>2020</b> , 34, 1857-1869	5.6	12
32	Global changes threaten functional and taxonomic diversity of insular species worldwide. <i>Diversity and Distributions</i> , <b>2020</b> , 26, 402-414	5	11
31	Complementarity of the multidimensional functional and the taxonomic approaches to study phytoplankton communities in three Mediterranean coastal lagoons of different trophic status. <i>Hydrobiologia</i> , <b>2018</b> , 815, 207-227	2.4	10
30	Confronting species aesthetics with ecological functions in coral reef fish. <i>Scientific Reports</i> , <b>2018</b> , 8, 11733	4.9	10
29	Nutrient recycling by coastal macrofauna: intra- versus interspecific differences. <i>Marine Ecology - Progress Series</i> , <b>2012</b> , 452, 297-303	2.6	10
28	A global database for metacommunity ecology, integrating species, traits, environment and space. <i>Scientific Data</i> , <b>2020</b> , 7, 6	8.2	10
27	Community-wide scan identifies fish species associated with coral reef services across the Indo-Pacific. <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>2018</b> , 285,	4.4	9
26	Trait similarity in reef fish faunas across the world's oceans. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2021</b> , 118,	11.5	9
25	Accounting for intraspecific diversity when examining relationships between non-native species and functional diversity. <i>Oecologia</i> , <b>2019</b> , 189, 171-183	2.9	9
24	A new method to control error rates in automated species identification with deep learning algorithms. <i>Scientific Reports</i> , <b>2020</b> , 10, 10972	4.9	8
23	Species diversity and composition drive the aesthetic value of coral reef fish assemblages. <i>Biology Letters</i> , <b>2019</b> , 15, 20190703	3.6	7

22	Morphological sorting of introduced freshwater fish species within and between donor realms. <i>Global Ecology and Biogeography</i> , <b>2020</b> , 29, 803-813	6.1	6
21	Ecological Specialization Within a Carnivorous Fish Family Is Supported by a Herbivorous Microbiome Shaped by a Combination of Gut Traits and Specific Diet. <i>Frontiers in Marine Science</i> , <b>2021</b> , 8,	4.5	6
20	Exceptional but vulnerable microbial diversity in coral reef animal surface microbiomes. <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>2020</b> , 287, 20200642	4.4	5
19	High intraspecific variability in morphology and diet in tropical stream fish communities. <i>Ecology of Freshwater Fish</i> , <b>2019</b> , 28, 41-52	2.1	5
18	mFD: an R package to compute and illustrate the multiple facets of functional diversity. <i>Ecography</i> , <b>2022</b> , 2022,	6.5	5
17	Mare Incognitum: A Glimpse into Future Plankton Diversity and Ecology Research. <i>Frontiers in Marine Science</i> , <b>2017</b> , 4,	4.5	4
16	Automatic underwater fish species classification with limited data using few-shot learning. <i>Ecological Informatics</i> , <b>2021</b> , 63, 101320	4.2	4
15	Use of environmental DNA in assessment of fish functional and phylogenetic diversity. <i>Conservation Biology</i> , <b>2021</b> , 35, 1944-1956	6	4
14	FISHMORPH: A global database on morphological traits of freshwater fishes. <i>Global Ecology and Biogeography</i> ,	6.1	4
13	Ranking the biases: The choice of OTUs vs. ASVs in 16S rRNA amplicon data analysis has stronger effects on diversity measures than rarefaction and OTU identity threshold.. <i>PLoS ONE</i> , <b>2022</b> , 17, e0264443	2.7	4
12	The dimensionality and structure of species trait spaces. <i>Ecology Letters</i> , <b>2021</b> , 24, 1988-2009	10	3
11	Global patterns and predictors of trophic position, body size and jaw size in fishes. <i>Global Ecology and Biogeography</i> , <b>2021</b> , 30, 414-428	6.1	2
10	Phylogenetic conservatism drives nutrient dynamics of coral reef fishes. <i>Nature Communications</i> , <b>2021</b> , 12, 5432	17.4	2
9	Interspecific differences in environmental response blur trait dynamics in classic statistical analyses. <i>Marine Biology</i> , <b>2019</b> , 166, 1	2.5	1
8	Coral reef fishes reveal strong divergence in the prevalence of traits along the global diversity gradient. <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>2021</b> , 288, 20211712	4.4	1
7	Strong functional divergence of tropical reef fish assemblages along the global diversity gradient		1
6	Microbial Shift in the Enteric Bacteriome of Coral Reef Fish Following Climate-Driven Regime Shifts. <i>Microorganisms</i> , <b>2021</b> , 9,	4.9	1
5	Contemporary environment and historical legacy explain functional diversity of freshwater fishes in the world rivers. <i>Global Ecology and Biogeography</i> , <b>2022</b> , 31, 700-713	6.1	1

4	Interspecific differences in the effect of fish on marine microbial plankton. <i>Aquatic Microbial Ecology</i> , <b>2019</b> , 82, 289-298	1.1	0
3	Coral-associated viruses and bacteria in the Ha Long Bay, Vietnam. <i>Aquatic Microbial Ecology</i> , <b>2015</b> , 76, 149-161	1.1	0
2	Formal Method for Mission Controller Generation of a Mobile Robot. <i>Lecture Notes in Computer Science</i> , <b>2017</b> , 586-600	0.9	
1	Similar trait structure and vulnerability in pelagic fish faunas on two remote island systems. <i>Marine Biology</i> , <b>2022</b> , 169, 1	2.5	