SÃ©bastien VillÃ©ger

List of Publications by Year
in descending order

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99	12,132	61984	36028
papers	citations	43	97
		h-index	g-index

104	104	104	12029
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	NEW MULTIDIMENSIONAL FUNCTIONAL DIVERSITY INDICES FOR A MULTIFACETED FRAMEWORK IN FUNCTIONAL ECOLOGY. Ecology, 2008, 89, 2290-2301.	3.2	2,318
2	A functional approach reveals community responses to disturbances. Trends in Ecology and Evolution, 2013, 28, 167-177.	8.7	1,341
3	Functional diversity measures: an overview of their redundancy and their ability to discriminate community assembly rules. Functional Ecology, 2010, 24, 867-876.	3.6	1,105
4	Defining and measuring ecological specialization. Journal of Applied Ecology, 2010, 47, 15-25.	4.0	568
5	Contrasting changes in taxonomic vs. functional diversity of tropical fish communities after habitat degradation. Ecological Applications, 2010, 20, 1512-1522.	3.8	452
6	Functional over-redundancy and high functional vulnerability in global fish faunas on tropical reefs. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13757-13762.	7.1	391
7	Functional Structure of Biological Communities Predicts Ecosystem Multifunctionality. PLoS ONE, 2011, 6, e17476.	2.5	348
8	How many dimensions are needed to accurately assess functional diversity? A pragmatic approach for assessing the quality of functional spaces. Global Ecology and Biogeography, 2015, 24, 728-740.	5.8	338
9	Decomposing functional Î²-diversity reveals that low functional Î²-diversity is driven by low functional turnover in European fish assemblages. Global Ecology and Biogeography, 2013, 22, 671-681.	5.8	318
10	Rare species contribute disproportionately to the functional structure of species assemblages. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20160084.	2.6	277
11	Functional ecology of fish: current approaches and future challenges. Aquatic Sciences, 2017, 79, 783-801.	1.5	270
12	Human impacts on global freshwater fish biodiversity. Science, 2021, 371, 835-838.	12.6	262
13	Homogenization patterns of the worldâ€™s freshwater fish faunas. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 18003-18008.	7.1	197
14	The multidimensionality of the niche reveals functional diversity changes in benthic marine biotas across geological time. Ecology Letters, 2011, 14, 561-568.	6.4	177
15	Disentangling the pathways of land use impacts on the functional structure of fish assemblages in Amazon streams. Ecography, 2018, 41, 219-232.	4.5	166
16	Global functional diversity of freshwater fish is concentrated in the Neotropics while functional vulnerability is widespread. Scientific Reports, 2016, 6, 22125.	3.3	162
17	Toward a loss of functional diversity in stream fish assemblages under climate change. Global Change Biology, 2013, 19, 387-400.	9.5	160
18	A Deep learning method for accurate and fast identification of coral reef fishes in underwater images. Ecological Informatics, 2018, 48, 238-244.	5.2	147

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19	Towards a consensus for calculating dendramâ€based functional diversity indices. Oikos, 2008, 117, 794-800.	2.7	143
20	Functional homogenization exceeds taxonomic homogenization among <scp>E</scp>uropean fish assemblages. Global Ecology and Biogeography, 2014, 23, 1450-1460.	5.8	127
21	Low Functional Î²-Diversity Despite High Taxonomic Î²-Diversity among Tropical Estuarine Fish Communities. PLoS ONE, 2012, 7, e40679.	2.5	126
22	Quantifying the multiple facets of isotopic diversity: New metrics for stable isotope ecology. Ecological Indicators, 2015, 56, 152-160.	6.3	124
23	Skin microbiome of coral reef fish is highly variable and driven by host phylogeny and diet. Microbiome, 2018, 6, 147.	11.1	123
24	Meeting fisheries, ecosystem function, and biodiversity goals in a human-dominated world. Science, 2020, 368, 307-311.	12.6	99
25	High diversity of skin-associated bacterial communities of marine fishes is promoted by their high variability among body parts, individuals and species. FEMS Microbiology Ecology, 2015, 91, fiv061.	2.7	90
26	An attributeâ€diversity approach to functional diversity, functional beta diversity, and related (dis)similarity measures. Ecological Monographs, 2019, 89, e01343.	5.4	80
27	Global mismatch between species richness and vulnerability of reef fish assemblages. Ecology Letters, 2014, 17, 1101-1110.	6.4	78
28	Functional biodiversity loss along natural CO2 gradients. Nature Communications, 2018, 9, 5149.	12.8	77
29	mFD: an R package to compute and illustrate the multiple facets of functional diversity. Ecography, 2022, 2022, .	4.5	77
30	Nonâ€native species led to marked shifts in functional diversity of the world freshwater fish faunas. Ecology Letters, 2018, 21, 1649-1659.	6.4	74
31	Fish-SPRICH: a database of freshwater fish species richness throughout the World. Hydrobiologia, 2013, 700, 343-349.	2.0	73
32	Coral Reef Fish Detection and Recognition in Underwater Videos by Supervised Machine Learning: Comparison Between Deep Learning and HOG+SVM Methods. Lecture Notes in Computer Science, 2016, , 160-171.	1.3	72
33	Predicting trophic guild and diet overlap from functional traits: statistics, opportunities and limitations for marine ecology. Marine Ecology - Progress Series, 2011, 436, 17-28.	1.9	69
34	Trait structure and redundancy determine sensitivity to disturbance in marine fish communities. Global Change Biology, 2019, 25, 3424-3437.	9.5	68
35	High intraspecific variability in the functional niche of a predator is associated with ontogenetic shift and individual specialization. Ecology and Evolution, 2014, 4, 4649-4657.	1.9	64
36	Worldwide freshwater fish homogenization is driven by a few widespread non-native species. Biological Invasions, 2016, 18, 1295-1304.	2.4	63

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37	The dimensionality and structure of species trait spaces. Ecology Letters, 2021, 24, 1988-2009.	6.4	63
38	Species contribute differently to the taxonomic, functional, and phylogenetic alpha and beta diversity of freshwater fish communities. Diversity and Distributions, 2014, 20, 1235-1244.	4.1	55
39	Biogeographical region and environmental conditions drive functional traits of estuarine fish assemblages worldwide. Fish and Fisheries, 2017, 18, 752-771.	5.3	55
40	Nonâ€native species modify the isotopic structure of freshwater fish communities across the globe. Ecography, 2015, 38, 979-985.	4.5	52
41	Functional diversity measures revealed impacts of non-native species and habitat degradation on species-poor freshwater fish assemblages. Science of the Total Environment, 2018, 625, 861-871.	8.0	50
42	Trait similarity in reef fish faunas across the worldâ€™s oceans. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	50
43	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. PLoS ONE, 2022, 17, e0264443.	2.5	49
44	Taxonomic and functional diversity increase the aesthetic value of coralligenous reefs. Scientific Reports, 2016, 6, 34229.	3.3	45
45	FISHMORPH: A global database on morphological traits of freshwater fishes. Global Ecology and Biogeography, 2021, 30, 2330-2336.	5.8	45
46	Historical assemblage distinctiveness and the introduction of widespread nonâ€native species explain worldwide changes in freshwater fish taxonomic dissimilarity. Global Ecology and Biogeography, 2014, 23, 574-584.	5.8	44
47	Fish communities diverge in species but converge in traits over three decades of warming. Global Change Biology, 2019, 25, 3972-3984.	9.5	41
48	A Climate-Driven Functional Inversion of Connected Marine Ecosystems. Current Biology, 2018, 28, 3654-3660.e3.	3.9	39
49	Mapping biodiversity in three-dimensions challenges marine conservation strategies: The example of coralligenous assemblages in North-Western Mediterranean Sea. Ecological Indicators, 2016, 61, 1042-1054.	6.3	37
50	Morphological diversity of freshwater fishes differs between realms, but morphologically extreme species are widespread. Global Ecology and Biogeography, 2019, 28, 211-221.	5.8	36
51	Unexpected high vulnerability of functions in wilderness areas: evidence from coral reef fishes. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20160128.	2.6	35
52	Functional rarity of coral reef fishes at the global scale: Hotspots and challenges for conservation. Biological Conservation, 2018, 226, 288-299.	4.1	35
53	Colossal Aggregations of Giant Alien Freshwater Fish as a Potential Biogeochemical Hotspot. PLoS ONE, 2011, 6, e25732.	2.5	34
54	Combinations of biological attributes predict temporal dynamics of fish species in response to environmental changes. Ecological Indicators, 2015, 48, 147-156.	6.3	33

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55	Biogeographical, environmental and anthropogenic determinants of global patterns in bird taxonomic and trait turnover. Global Ecology and Biogeography, 2017, 26, 1190-1200.	5.8	33
56	Additive partitioning of diversity including species differences: a comment on Hardy & Senterre (2007). Journal of Ecology, 2008, 96, 845-848.	4.0	32
57	From current distinctiveness to future homogenization of the world's freshwater fish faunas. Diversity and Distributions, 2015, 21, 223-235.	4.1	32
58	Captive bottlenose dolphins and killer whales harbor a species-specific skin microbiota that varies among individuals. Scientific Reports, 2017, 7, 15269.	3.3	31
59	Ecological Specialization Within a Carnivorous Fish Family Is Supported by a Herbivorous Microbiome Shaped by a Combination of Gut Traits and Specific Diet. Frontiers in Marine Science, 2021, 8, .	2.5	31
60	On the risks of using dendrograms to measure functional diversity and multidimensional spaces to measure phylogenetic diversity: a comment on Sobral etÂal. (2016). Ecology Letters, 2017, 20, 554-557.	6.4	28
61	A global database for metacommunity ecology, integrating species, traits, environment and space. Scientific Data, 2020, 7, 6.	5.3	28
62	A global database of nitrogen and phosphorus excretion rates of aquatic animals. Ecology, 2017, 98, 1475-1475.	3.2	26
63	Nutrient limitation, bioenergetics and stoichiometry: A new model to predict elemental fluxes mediated by fishes. Functional Ecology, 2020, 34, 1857-1869.	3.6	25
64	Global changes threaten functional and taxonomic diversity of insular species worldwide. Diversity and Distributions, 2020, 26, 402-414.	4.1	25
65	Use of environmental DNA in assessment of fish functional and phylogenetic diversity. Conservation Biology, 2021, 35, 1944-1956.	4.7	25
66	Automatic underwater fish species classification with limited data using few-shot learning. Ecological Informatics, 2021, 63, 101320.	5.2	23
67	Measuring changes in taxonomic dissimilarity following species introductions and extirpations. Ecological Indicators, 2012, 18, 552-558.	6.3	22
68	Intraâ€•and interspecific differences in nutrient recycling by European freshwater fish. Freshwater Biology, 2012, 57, 2330-2341.	2.4	21
69	Temporal changes in the taxonomic and functional diversity of fish communities in shallow Chinese lakes: the effects of riverâ€“lake connections and aquaculture. Aquatic Conservation: Marine and Freshwater Ecosystems, 2014, 24, 23-34.	2.0	21
70	Accounting for intraspecific diversity when examining relationships between non-native species and functional diversity. Oecologia, 2019, 189, 171-183.	2.0	20
71	Increased taxonomic and functional similarity does not increase the trophic similarity of communities. Global Ecology and Biogeography, 2016, 25, 46-54.	5.8	19
72	Species diversity and composition drive the aesthetic value of coral reef fish assemblages. Biology Letters, 2019, 15, 20190703.	2.3	19

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73	Stable trophic structure across coastal nekton assemblages despite high species turnover. Marine Ecology - Progress Series, 2008, 364, 135-146.	1.9	19
74	Confronting species aesthetics with ecological functions in coral reef fish. Scientific Reports, 2018, 8, 11733.	3.3	18
75	A new method to control error rates in automated species identification with deep learning algorithms. Scientific Reports, 2020, 10, 10972.	3.3	18
76	Biological trade-offs underpin coral reef ecosystem functioning. Nature Ecology and Evolution, 2022, 6, 701-708.	7.8	18
77	Complementarity of the multidimensional functional and the taxonomic approaches to study phytoplankton communities in three Mediterranean coastal lagoons of different trophic status. Hydrobiologia, 2018, 815, 207-227.	2.0	17
78	Morphological sorting of introduced freshwater fish species within and between donor realms. Global Ecology and Biogeography, 2020, 29, 803-813.	5.8	17
79	High intraspecific variability in morphology and diet in tropical stream fish communities. Ecology of Freshwater Fish, 2019, 28, 41-52.	1.4	14
80	Contemporary environment and historical legacy explain functional diversity of freshwater fishes in the world rivers. Global Ecology and Biogeography, 2022, 31, 700-713.	5.8	14
81	Community-wide scan identifies fish species associated with coral reef services across the Indo-Pacific. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20181167.	2.6	13
82	Exceptional but vulnerable microbial diversity in coral reef animal surface microbiomes. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20200642.	2.6	12
83	Nutrient recycling by coastal macrofauna: intra- versus interspecific differences. Marine Ecology - Progress Series, 2012, 452, 297-303.	1.9	11
84	Mare Incognitum: A Glimpse into Future Plankton Diversity and Ecology Research. Frontiers in Marine Science, 2017, 4, .	2.5	10
85	Phylogenetic conservatism drives nutrient dynamics of coral reef fishes. Nature Communications, 2021, 12, 5432.	12.8	10
86	Global patterns and predictors of trophic position, body size and jaw size in fishes. Global Ecology and Biogeography, 2021, 30, 414-428.	5.8	9
87	Underwater robots provide similar fish biodiversity assessments as divers on coral reefs. Remote Sensing in Ecology and Conservation, 2021, 7, 567-578.	4.3	7
88	Microbial Shift in the Enteric Bacteriome of Coral Reef Fish Following Climate-Driven Regime Shifts. Microorganisms, 2021, 9, 1711.	3.6	6
89	Coral reef fishes reveal strong divergence in the prevalence of traits along the global diversity gradient. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20211712.	2.6	6
90	Predation Cues Lead to Reduced Foraging of Invasive Siganus rivulatus in the Mediterranean. Frontiers in Marine Science, 2021, 8, .	2.5	5

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91	Linking key human-environment theories to inform the sustainability of coral reefs. Current Biology, 2022, 32, 2610-2620.e4.	3.9	5
92	Mesophotic coral ecosystems of French Polynesia are hotspots of alpha and beta generic diversity for scleractinian assemblages. Diversity and Distributions, 2022, 28, 1391-1403.	4.1	5
93	An invasive herbivorous fish (Siganus rivulatus) influences both benthic and planktonic microbes through defecation and nutrient excretion. Science of the Total Environment, 2022, 838, 156207.	8.0	5
94	Quaternion based control for robotic observation of marine diversity. , 2017, , .		3
95	Interspecific differences in the effect of fish on marine microbial plankton. Aquatic Microbial Ecology, 2019, 82, 289-298.	1.8	3
96	Interspecific differences in environmental response blur trait dynamics in classic statistical analyses. Marine Biology, 2019, 166, 1.	1.5	1
97	Coral-associated viruses and bacteria in the Ha Long Bay, Vietnam. Aquatic Microbial Ecology, 2015, 76, 149-161.	1.8	1
98	Formal Method for Mission Controller Generation of a Mobile Robot. Lecture Notes in Computer Science, 2017, , 586-600.	1.3	0
99	Similar trait structure and vulnerability in pelagic fish faunas on two remote island systems. Marine Biology, 2022, 169, 1.	1.5	0