David Mouillot

List of Publications by Year in descending order

109 papers	18,961 citations	28274 55 h-index	28297 105 g-index
113 all docs	113 docs citations	113 times ranked	18484 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	Functional richness, functional evenness and functional divergence: the primary components of functional diversity. Oikos, 2005, 111, 112-118.	2.7	1,475
3	The Biodiversity of the Mediterranean Sea: Estimates, Patterns, and Threats. PLoS ONE, 2010, 5, e11842.	2.5	1,439
4	A functional approach reveals community responses to disturbances. Trends in Ecology and Evolution, 2013, 28, 167-177.	8.7	1,341
5	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
6	Spatial mismatch and congruence between taxonomic, phylogenetic and functional diversity: the need for integrative conservation strategies in a changing world. Ecology Letters, 2010, 13, 1030-1040.	6.4	721
7	Rare Species Support Vulnerable Functions in High-Diversity Ecosystems. PLoS Biology, 2013, 11, e1001569.	5.6	654
8	Predicting climate-driven regime shifts versus rebound potential in coral reefs. Nature, 2015, 518, 94-97.	27.8	607
9	Defining and measuring ecological specialization. Journal of Applied Ecology, 2010, 47, 15-25.	4.0	568
10	Contrasting changes in taxonomic vs. functional diversity of tropical fish communities after habitat degradation. Ecological Applications, 2010, 20, 1512-1522.	3.8	452
11	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
12	Protecting the global ocean for biodiversity, food and climate. Nature, 2021, 592, 397-402.	27.8	359
13	Functional Structure of Biological Communities Predicts Ecosystem Multifunctionality. PLoS ONE, 2011, 6, e17476.	2.5	348
14	A guide for using functional diversity indices to reveal changes in assembly processes along ecological gradients. Journal of Vegetation Science, 2013, 24, 794-806.	2.2	316
15	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
16	Functional ecology of fish: current approaches and future challenges. Aquatic Sciences, 2017, 79, 783-801.	1.5	270
17	Host specificity in phylogenetic and geographic space. Trends in Parasitology, 2011, 27, 355-361.	3.3	267
18	Functional Rarity: The Ecology of Outliers. Trends in Ecology and Evolution, 2017, 32, 356-367.	8.7	258

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19	Environmental DNA illuminates the dark diversity of sharks. Science Advances, 2018, 4, eaap9661.	10.3	222
20	Beyond taxonomic diversity patterns: how do Î±, Î² and Î³ components of bird functional and phylogenetic diversity respond to environmental gradients across France?. Global Ecology and Biogeography, 2011, 20, 893-903.	5.8	193
21	Inferring food web structure from predatorâ€“prey body size relationships. Methods in Ecology and Evolution, 2013, 4, 1083-1090.	5.2	185
22	Gravity of human impacts mediates coral reef conservation gains. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E6116-E6125.	7.1	185
23	Global Biogeography of Reef Fishes: A Hierarchical Quantitative Delineation of Regions. PLoS ONE, 2013, 8, e81847.	2.5	181
24	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
25	Quantifying Phylogenetic Beta Diversity: Distinguishing between â€˜Trueâ€™ Turnover of Lineages and Phylogenetic Diversity Gradients. PLoS ONE, 2012, 7, e42760.	2.5	169
26	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
27	Quaternary coral reef refugia preserved fish diversity. Science, 2014, 344, 1016-1019.	12.6	148
28	Prioritizing phylogenetic diversity captures functional diversity unreliably. Nature Communications, 2018, 9, 2888.	12.8	144
29	Towards a consensus for calculating dendrogramâ€based functional diversity indices. Oikos, 2008, 117, 794-800.	2.7	143
30	Plate tectonics drive tropical reef biodiversity dynamics. Nature Communications, 2016, 7, 11461.	12.8	136
31	Low Functional Î²-Diversity Despite High Taxonomic Î²-Diversity among Tropical Estuarine Fish Communities. PLoS ONE, 2012, 7, e40679.	2.5	126
32	Environmental DNA reveals tropical shark diversity in contrasting levels of anthropogenic impact. Scientific Reports, 2017, 7, 16886.	3.3	126
33	Protected and Threatened Components of Fish Biodiversity in the Mediterranean Sea. Current Biology, 2011, 21, 1044-1050.	3.9	125
34	Low Connectivity between Mediterranean Marine Protected Areas: A Biophysical Modeling Approach for the Dusky Grouper Epinephelus marginatus. PLoS ONE, 2013, 8, e68564.	2.5	117
35	Multifaceted diversityâ€“area relationships reveal global hotspots of mammalian species, trait and lineage diversity. Global Ecology and Biogeography, 2014, 23, 836-847.	5.8	110
36	Projected climate change and the changing biogeography of coastal Mediterranean fishes. Journal of Biogeography, 2013, 40, 534-547.	3.0	104

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37	Meeting fisheries, ecosystem function, and biodiversity goals in a human-dominated world. Science, 2020, 368, 307-311.	12.6	99
38	Combining projected changes in species richness and composition reveals climate change impacts on coastal Mediterranean fish assemblages. Global Change Biology, 2012, 18, 2995-3003.	9.5	98
39	Forecasted coral reef decline in marine biodiversity hotspots under climate change. Global Change Biology, 2015, 21, 2479-2487.	9.5	97
40	How accessible are coral reefs to people? A global assessment based on travel time. Ecology Letters, 2016, 19, 351-360.	6.4	97
41	Global determinants of freshwater and marine fish genetic diversity. Nature Communications, 2020, 11, 692.	12.8	97
42	Asynchrony of taxonomic, functional and phylogenetic diversity in birds. Global Ecology and Biogeography, 2014, 23, 780-788.	5.8	91
43	Selecting statistical models and variable combinations for optimal classification using otolith microchemistry. , 2011, 21, 1352-1364.		89
44	Biodiversity in the Anthropocene: prospects and policy. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20162094.	2.6	82
45	Global mismatch between species richness and vulnerability of reef fish assemblages. Ecology Letters, 2014, 17, 1101-1110.	6.4	78
46	Let more big fish sink: Fisheries prevent blue carbon sequestrationâ€"half in unprofitable areas. Science Advances, 2020, 6, .	10.3	77
47	mFD: an R package to compute and illustrate the multiple facets of functional diversity. Ecography, 2022, 2022, .	4.5	77
48	Assembly rules of ectoparasite communities across scales: combining patterns of abiotic factors, host composition, geographic space, phylogeny and traits. Ecography, 2015, 38, 184-197.	4.5	76
49	Additive effects of climate change on connectivity between marine protected areas and larval supply to fished areas. Diversity and Distributions, 2015, 21, 139-150.	4.1	71
50	Marine reserves lag behind wilderness in the conservation of key functional roles. Nature Communications, 2016, 7, 12000.	12.8	71
51	Conserving the functional and phylogenetic trees of life of European tetrapods. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140005.	4.0	70
52	Environmental heterogeneity among lakes promotes hyper Î²â€diversity across phytoplankton communities. Freshwater Biology, 2016, 61, 633-645.	2.4	70
53	Trait structure and redundancy determine sensitivity to disturbance in marine fish communities. Global Change Biology, 2019, 25, 3424-3437.	9.5	68
54	Spatial mismatch of phylogenetic diversity across three vertebrate groups and protected areas in Europe. Diversity and Distributions, 2014, 20, 674-685.	4.1	67

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55	Sustaining Rare Marine Microorganisms: Macroorganisms As Repositories and Dispersal Agents of Microbial Diversity. Frontiers in Microbiology, 2017, 8, 947.	3.5	66
56	Global vulnerability of marine mammals to global warming. Scientific Reports, 2020, 10, 548.	3.3	63
57	The dimensionality and structure of species trait spaces. Ecology Letters, 2021, 24, 1988-2009.	6.4	63
58	Global distribution and conservation status of ecologically rare mammal and bird species. Nature Communications, 2020, 11, 5071.	12.8	61
59	Escaping the perfect storm of simultaneous climate change impacts on agriculture and marine fisheries. Science Advances, 2019, 5, eaaw9976.	10.3	60
60	Representing taxonomic, phylogenetic and functional diversity: new challenges for <scp>M</scp>editerranean marineâ€protected areas. Diversity and Distributions, 2015, 21, 175-187.	4.1	57
61	Isolation drives taxonomic and functional nestedness in tropical reef fish faunas. Ecography, 2017, 40, 425-435.	4.5	54
62	Remote reefs and seamounts are the last refuges for marine predators across the Indo-Pacific. PLoS Biology, 2019, 17, e3000366.	5.6	53
63	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
64	A Phylogenetic Perspective on the Evolution of Mediterranean Teleost Fishes. PLoS ONE, 2012, 7, e36443.	2.5	50
65	Reef accessibility impairs the protection of sharks. Journal of Applied Ecology, 2018, 55, 673-683.	4.0	46
66	Extending networks of protected areas to optimize connectivity and population growth rate. Ecography, 2015, 38, 273-282.	4.5	43
67	Fish communities diverge in species but converge in traits over three decades of warming. Global Change Biology, 2019, 25, 3972-3984.	9.5	41
68	A Climate-Driven Functional Inversion of Connected Marine Ecosystems. Current Biology, 2018, 28, 3654-3660.e3.	3.9	39
69	Conservation physiology across scales: insights from the marine realm. , 2014, 2, cou024-cou024.		37
70	Functional reorganization of marine fish nurseries under climate warming. Global Change Biology, 2019, 25, 660-674.	9.5	37
71	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
72	Functional rarity of coral reef fishes at the global scale: Hotspots and challenges for conservation. Biological Conservation, 2018, 226, 288-299.	4.1	35

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73	Accumulation curves of environmental DNA sequences predict coastal fish diversity in the coral triangle. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20200248.	2.6	35
74	Benchmarking bioinformatic tools for fast and accurate eDNA metabarcoding species identification. Molecular Ecology Resources, 2021, 21, 2565-2579.	4.8	35
75	The challenge of delineating biogeographical regions: nestedness matters for Indoâ€Pacific coral reef fishes. Journal of Biogeography, 2013, 40, 2228-2237.	3.0	32
76	â€˜Lowâ€hanging fruitâ€™ for conservation of marine vertebrate species at risk in the <scp>M</scp>editerranean <scp>S</scp>ea. Global Ecology and Biogeography, 2015, 24, 226-239.	5.8	30
77	Functional diversity and redundancy across fish gut, sediment and water bacterial communities. Environmental Microbiology, 2017, 19, 3268-3282.	3.8	30
78	A global database for metacommunity ecology, integrating species, traits, environment and space. Scientific Data, 2020, 7, 6.	5.3	28
79	Patterns and multi-scale drivers of phytoplankton species richness in temperate peri-urban lakes. Science of the Total Environment, 2016, 559, 74-83.	8.0	27
80	Reviewing the Ecosystem Services, Societal Goods, and Benefits of Marine Protected Areas. Frontiers in Marine Science, 2021, 8, .	2.5	27
81	Plant community impact on productivity: Trait diversity or key(stone) species effects?. Ecology Letters, 2022, 25, 913-925.	6.4	26
82	Biogeographic, historical and environmental influences on the taxonomic and functional structure of <scp>A</scp>tlantic reef fish assemblages. Global Ecology and Biogeography, 2013, 22, 1173-1182.	5.8	25
83	Functional Diversity Measures. , 2013, , 597-608.		25
84	Projected impacts of climate warming on the functional and phylogenetic components of coastal Mediterranean fish biodiversity. Ecography, 2015, 38, 681-689.	4.5	25
85	Isolation and no-entry marine reserves mitigate anthropogenic impacts on grey reef shark behavior. Scientific Reports, 2019, 9, 2897.	3.3	25
86	Use of environmental DNA in assessment of fish functional and phylogenetic diversity. Conservation Biology, 2021, 35, 1944-1956.	4.7	25
87	Ecological traits shape genetic diversity patterns across the Mediterranean Sea: a quantitative review on fishes. Journal of Biogeography, 2016, 43, 845-857.	3.0	22
88	Spatial graphs highlight how multiâ€generational dispersal shapes landscape genetic patterns. Ecography, 2020, 43, 1167-1179.	4.5	21
89	Historical and contemporary determinants of global phylogenetic structure in tropical reef fish faunas. Ecography, 2016, 39, 825-835.	4.5	20
90	Influence of the geography of speciation on current patterns of coral reef fish biodiversity across the Indoâ€Pacific. Ecography, 2018, 41, 1295-1306.	4.5	20

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91	A new method to control error rates in automated species identification with deep learning algorithms. Scientific Reports, 2020, 10, 10972.	3.3	18
92	Responses of coral reef fishes to past climate changes are related to lifeâ€history traits. Ecology and Evolution, 2017, 7, 1996-2005.	1.9	15
93	Response and Effect Traits of Coral Reef Fish. Frontiers in Marine Science, 2021, 8, .	2.5	15
94	Projecting the Impact of Regional Land-Use Change and Water Management Policies on Lake Water Quality: An Application to Periurban Lakes and Reservoirs. PLoS ONE, 2013, 8, e72227.	2.5	15
95	Low fuel cost and rising fish price threaten coral reef wilderness. Conservation Letters, 2020, 13, e12706.	5.7	14
96	Rebound in functional distinctiveness following warming and reduced fishing in the North Sea. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20201600.	2.6	14
97	Cross-ocean patterns and processes in fish biodiversity on coral reefs through the lens of eDNA metabarcoding. Proceedings of the Royal Society B: Biological Sciences, 2022, 289, 20220162.	2.6	14
98	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
99	Contrasted patterns in climate change risk for Mediterranean fisheries. Global Change Biology, 2021, 27, 5920-5933.	9.5	10
100	Global correlates of terrestrial and marine coverage by protected areas on islands. Nature Communications, 2020, 11, 4438.	12.8	8
101	The last hotspots of structural complexity as conservation targets in the Mesoamerican Coral Reef. Biological Conservation, 2021, 256, 109021.	4.1	8
102	Climate differently influences the genomic patterns of two sympatric marine fish species. Journal of Animal Ecology, 2022, 91, 1180-1195.	2.8	8
103	Genomic insights into the historical and contemporary demographics of the grey reef shark. Heredity, 2022, 128, 225-235.	2.6	8
104	Identifying barriers to gene flow and hierarchical conservation units from seascape genomics: a modelling framework applied to a marine predator. Ecography, 2022, 2022, .	4.5	7
105	Functionally distinct tree species support long-term productivity in extreme environments. Proceedings of the Royal Society B: Biological Sciences, 2022, 289, 20211694.	2.6	6
106	Linking key human-environment theories to inform the sustainability of coral reefs. Current Biology, 2022, 32, 2610-2620.e4.	3.9	5
107	Influence of historical changes in tropical reef habitat on the diversification of coral reef fishes. Scientific Reports, 2021, 11, 20731.	3.3	4
108	Interspecific differences in environmental response blur trait dynamics in classic statistical analyses. Marine Biology, 2019, 166, 1.	1.5	1

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109	Similar trait structure and vulnerability in pelagic fish faunas on two remote island systems. Marine Biology, 2022, 169, 1.	1.5	0