Mark O Gessner

List of Publications by Year
in descending order

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99 papers	21,994 citations	34105 52 h-index	34986 98 g-index
105 all docs	105 docs citations	105 times ranked	22167 citing authors

#	Article	IF	Citations
1	Freshwater biodiversity: importance, threats, status and conservation challenges. Biological Reviews, 2006, 81, 163.	10.4	5,448
2	Global threats to human water security and river biodiversity. Nature, 2010, 467, 555-561.	27.8	5,284
3	Diversity meets decomposition. Trends in Ecology and Evolution, 2010, 25, 372-380.	8.7	991
4	Consequences of biodiversity loss for litter decomposition across biomes. Nature, 2014, 509, 218-221.	27.8	600
5	CONTRIBUTION OF STREAM DETRIVORES, FUNGI, AND BACTERIA TO LEAF BREAKDOWN BASED ON BIOMASS ESTIMATES. Ecology, 2002, 83, 1026-1038.	3.2	577
6	Continental-Scale Effects of Nutrient Pollution on Stream Ecosystem Functioning. Science, 2012, 336, 1438-1440.	12.6	520
7	A Perspective on Leaf Litter Breakdown in Streams. Oikos, 1999, 85, 377.	2.7	501
8	Synthetic chemicals as agents of global change. Frontiers in Ecology and the Environment, 2017, 15, 84-90.	4.0	457
9	A CASE FOR USING LITTER BREAKDOWN TO ASSESS FUNCTIONAL STREAM INTEGRITY. , 2002, 12, 498-510.		433
10	NÂ:ÂP ratios influence litter decomposition and colonization by fungi and bacteria in microcosms. Functional Ecology, 2009, 23, 211-219.	3.6	426
11	Impacts of multiple stressors on freshwater biota across spatial scales and ecosystems. Nature Ecology and Evolution, 2020, 4, 1060-1068.	7.8	336
12	Biodiversity effects on ecosystem functioning: emerging issues and their experimental test in aquatic environments. Oikos, 2004, 104, 423-436.	2.7	320
13	The Role of Biodiversity in the Functioning of Freshwater and Marine Benthic Ecosystems. BioScience, 2004, 54, 767.	4.9	296
14	A global experiment suggests climate warming will not accelerate litter decomposition in streams but might reduce carbon sequestration. Ecology Letters, 2011, 14, 289-294.	6.4	256
15	Magnitude and variability of process rates in fungal diversity-litter decomposition relationships. Ecology Letters, 2005, 8, 1129-1137.	6.4	235
16	Impacts of stream acidification on litter breakdown: implications for assessing ecosystem functioning. Journal of Applied Ecology, 2004, 41, 365-378.	4.0	222
17	Bacteria, Fungi and the Breakdown of Leaf Litter in a Large River. Oikos, 1995, 74, 93.	2.7	217
18	The Alliance for Freshwater Life: A global call to unite efforts for freshwater biodiversity science and conservation. Aquatic Conservation: Marine and Freshwater Ecosystems, 2018, 28, 1015-1022.	2.0	190

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19	Resource quality and stoichiometric constraints on stream ecosystem functioning. Freshwater Biology, 2009, 54, 957-970.	2.4	185
20	DECOMPOSITION OF DIVERSE LITTER MIXTURES IN STREAMS. Ecology, 2007, 88, 219-227.	3.2	183
21	Disconnect of microbial structure and function: enzyme activities and bacterial communities in nascent stream corridors. ISME Journal, 2012, 6, 680-691.	9.8	165
22	Global distribution of a key trophic guild contrasts with common latitudinal diversity patterns. Ecology, 2011, 92, 1839-1848.	3.2	162
23	Differences in processing dynamics of fresh and dried leaf litter in a stream ecosystem. Freshwater Biology, 1991, 26, 387-398.	2.4	153
24	Functional leaf traits and biodiversity effects on litter decomposition in a stream. Ecology, 2009, 90, 1641-1649.	3.2	135
25	Global patterns and drivers of ecosystem functioning in rivers and riparian zones. Science Advances, 2019, 5, eaav0486.	10.3	133
26	Nutrient addition accelerates leaf breakdown in an alpine springbrook. Oecologia, 2000, 122, 258-263.	2.0	129
27	Viriobenthos in freshwater and marine sediments: a review. Freshwater Biology, 2008, 53, 1186-1213.	2.4	125
28	Global patterns of stream detritivore distribution: implications for biodiversity loss in changing climates. Global Ecology and Biogeography, 2012, 21, 134-141.	5.8	114
29	A global analysis of terrestrial plant litter dynamics in non-perennial waterways. Nature Geoscience, 2018, 11, 497-503.	12.9	108
30	Global synthesis of the temperature sensitivity of leaf litter breakdown in streams and rivers. Global Change Biology, 2017, 23, 3064-3075.	9.5	103
31	A global agenda for advancing freshwater biodiversity research. Ecology Letters, 2022, 25, 255-263.	6.4	95
32	Biotic and abiotic variables influencing plant litter breakdown in streams: a global study. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20152664.	2.6	86
33	Flow Cytometric Assessment of Bacterial Abundance in Soils, Sediments and Sludge. Frontiers in Microbiology, 2016, 7, 903.	3.5	84
34	Fostering integration of freshwater ecology with ecotoxicology. Freshwater Biology, 2016, 61, 1991-2001.	2.4	84
35	DIEL MINERALIZATION PATTERNS OF STANDING-DEAD PLANT LITTER: IMPLICATIONS FOR CO2FLUX FROM WETLANDS. Ecology, 2004, 85, 2504-2518.	3.2	81
36	Widespread Increases in Iron Concentration in European and North American Freshwaters. Global Biogeochemical Cycles, 2017, 31, 1488-1500.	4.9	79

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37	Stream Ecosystem Functioning in an Agricultural Landscape. Advances in Ecological Research, 2011, , 211-276.	2.7	78
38	Incorporation of Radiolabeled Leucine into Protein to Estimate Bacterial Production in Plant Litter, Sediment, Epiphytic Biofilms, and Water Samples. Microbial Ecology, 2003, 45, 291-301.	2.8	76
39	Litter diversity, fungal decomposers and litter decomposition under simulated stream intermittency. Functional Ecology, 2011, 25, 1269-1277.	3.6	72
40	Silver Nanoparticle Effects on Stream Periphyton During Short-Term Exposures. Environmental Science & Technology, 2015, 49, 1165-1172.	10.0	71
41	Simulating rewetting events in intermittent rivers and ephemeral streams: A global analysis of leached nutrients and organic matter. Global Change Biology, 2019, 25, 1591-1611.	9.5	71
42	Towards a budget of leaf litter decomposition in a first-order woodland stream. Comptes Rendus De L'AcadÃ©mie Des Sciences SÃ©rie 3, Sciences De La Vie, 1997, 320, 747-758.	0.8	65
43	Invasion of Solidago gigantea in contrasting experimental plant communities: effects on soil microbes, nutrients and plantâ€“soil feedbacks. Journal of Ecology, 2010, 98, 1379-1388.	4.0	65
44	Trophic complexity enhances ecosystem functioning in an aquatic detritusâ€based model system. Journal of Animal Ecology, 2013, 82, 1042-1051.	2.8	65
45	Placing biodiversity and ecosystem functioning in context: environmental perturbations and the effects of species richness in a stream field experiment. Oecologia, 2009, 160, 757-770.	2.0	64
46	Leaf decomposition and invertebrate colonization responses to manipulated litter quantity in streams. Journal of the North American Benthological Society, 2008, 27, 321-331.	3.1	63
47	Influence of conidial traits and leaf structure on attachment success of aquatic hyphomycetes on leaf litter. Mycologia, 2007, 99, 24-32.	1.9	62
48	Chronic Exposure Effects of Silver Nanoparticles on Stream Microbial Decomposer Communities and Ecosystem Functions. Environmental Science & Technology, 2017, 51, 2447-2455.	10.0	61
49	Litter decomposition across multiple spatial scales in stream networks. Oecologia, 2009, 161, 343-351.	2.0	59
50	Litter decomposition in a temperate and a tropical stream: the effects of species mixing, litter quality and shredders. Freshwater Biology, 2014, 59, 438-449.	2.4	59
51	Chemical properties, microbial respiration, and decomposition of coarse and fine particulate organic matter. Journal of the North American Benthological Society, 2008, 27, 664-673.	3.1	56
52	No evidence for leafâ€trait dissimilarity effects on litter decomposition, fungal decomposers, and nutrient dynamics. Ecology, 2015, 96, 550-561.	3.2	56
53	Thermocline deepening boosts ecosystem metabolism: evidence from a largeâ€scale lake enclosure experiment simulating a summer storm. Global Change Biology, 2017, 23, 1448-1462.	9.5	55
54	Stoichiometric imbalances between detritus and detritivores are related to shifts in ecosystem functioning. Oikos, 2016, 125, 861-871.	2.7	54

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55	Riparian plant litter quality increases with latitude. Scientific Reports, 2017, 7, 10562.	3.3	53
56	Biodiversity of leaf litter fungi in streams along a latitudinal gradient. Science of the Total Environment, 2019, 661, 306-315.	8.0	53
57	Humic dissolved organic carbon drives oxidative stress and severe fitness impairments in Daphnia. Aquatic Toxicology, 2017, 182, 31-38.	4.0	52
58	Leafâ€litter breakdown in pasture and deciduous woodland streams: a comparison among three European regions. Freshwater Biology, 2010, 55, 1916-1929.	2.4	49
59	Sediment Respiration Pulses in Intermittent Rivers and Ephemeral Streams. Global Biogeochemical Cycles, 2019, 33, 1251-1263.	4.9	48
60	Methane emissions from contrasting urban freshwaters: Rates, drivers, and a wholeâ€city footprint. Global Change Biology, 2019, 25, 4234-4243.	9.5	44
61	Silica decouples fungal growth and litter decomposition without changing responses to climate warming and N enrichment. Ecology, 2014, 95, 3181-3189.	3.2	42
62	Harmful effects of silver nanoparticles on a complex detrital model system. Nanotoxicology, 2016, 10, 728-735.	3.0	42
63	DECOTAB: a multipurpose standard substrate to assess effects of litter quality on microbial decomposition and invertebrate consumption. Freshwater Science, 2012, 31, 1156-1162.	1.8	39
64	River doctors: Learning from medicine to improve ecosystem management. Science of the Total Environment, 2017, 595, 294-302.	8.0	37
65	Importance of advective mass transfer and sediment surface area for streambed microbial communities. Freshwater Biology, 2017, 62, 133-145.	2.4	36
66	Litter Quality Modulates Effects of Dissolved Nitrogen on Leaf Decomposition by Stream Microbial Communities. Microbial Ecology, 2019, 77, 959-966.	2.8	36
67	Pathways for cross-boundary effects of biodiversity on ecosystem functioning. Trends in Ecology and Evolution, 2022, 37, 454-467.	8.7	34
68	Evaluating the summer night sky brightness at a research field site on Lake Stechlin in northeastern Germany. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 181, 24-32.	2.3	33
69	Impacts of detritivore diversity loss on instream decomposition are greatest in the tropics. Nature Communications, 2021, 12, 3700.	12.8	33
70	Making waves. Bridging theory and practice towards multiple stressor management in freshwater ecosystems. Water Research, 2021, 196, 116981.	11.3	32
71	Plant phylogenetic history explains inâ€stream decomposition at a global scale. Journal of Ecology, 2020, 108, 17-35.	4.0	30
72	Experimentally Simulated Global Warming and Nitrogen Enrichment Effects on Microbial Litter Decomposers in a Marsh. Applied and Environmental Microbiology, 2011, 77, 803-809.	3.1	29

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73	Methane emissions from a freshwater marsh in response to experimentally simulated global warming and nitrogen enrichment. Journal of Geophysical Research, 2010, 115, .	3.3	28
74	Latitude dictates plant diversity effects on instream decomposition. Science Advances, 2021, 7, .	10.3	27
75	Consumer trophic diversity as a fundamental mechanism linking predation and ecosystem functioning. Journal of Animal Ecology, 2012, 81, 1146-1153.	2.8	26
76	Leaf-litter colonisation and breakdown in relation to stream typology: insights from Mediterranean low-order streams. Freshwater Biology, 2011, 56, 2594-2608.	2.4	23
77	Litter Supply as a Driver of Microbial Activity and Community Structure on Decomposing Leaves: a Test in Experimental Streams. Applied and Environmental Microbiology, 2013, 79, 4965-4973.	3.1	23
78	Integrating Aquatic and Terrestrial Perspectives to Improve Insights Into Organic Matter Cycling at the Landscape Scale. Frontiers in Earth Science, 2019, 7, .	1.8	22
79	Latitudinal gradient of nestedness and its potential drivers in stream detritivores. Ecography, 2015, 38, 949-955.	4.5	19
80	Temporal dynamics of freshwater bacterioâ€•and virioplankton along a littoralâ€“pelagic gradient. Freshwater Biology, 2008, 53, 1114-1125.	2.4	16
81	Variability of heterotrophic metabolism in small stream corridors of an early successional watershed. Journal of Geophysical Research, 2011, 116, .	3.3	16
82	Effects of shallow and deep sediment disturbance on whole-stream metabolism in experimental sand-bed flumes. Hydrobiologia, 2012, 683, 297-310.	2.0	16
83	Long-term exposure to silver nanoparticles affects periphyton community structure and function. Environmental Science: Nano, 2018, 5, 1397-1407.	4.3	16
84	Density constrains cascading consequences of warming and nitrogen from invertebrate growth to litter decomposition. Ecology, 2016, 97, 1635-1642.	3.2	13
85	Uptake and physiological effects of the neonicotinoid imidacloprid and its commercial formulation ConfidorÂ® in a widespread freshwater oligochaete. Environmental Pollution, 2020, 264, 114793.	7.5	13
86	Changes in food characteristics reveal indirect effects of lake browning on zooplankton performance. Limnology and Oceanography, 2020, 65, 1028-1040.	3.1	12
87	Global Patterns and Controls of Nutrient Immobilization on Decomposing Cellulose in Riverine Ecosystems. Global Biogeochemical Cycles, 2022, 36, .	4.9	12
88	Nutrient stoichiometry of aquatic hyphomycetes: Interstrain variation and ergosterol conversion factors. Fungal Ecology, 2017, 29, 96-102.	1.6	11
89	Nanosilver impacts on aquatic microbial decomposers and litter decomposition assessed as pollution-induced community tolerance (PICT). Environmental Science: Nano, 2020, 7, 2130-2139.	4.3	11
90	Prevalence of indirect toxicity effects of aluminium flakes on a shredderâ€fungalâ€leaf decomposition system. Freshwater Biology, 2016, 61, 2013-2025.	2.4	8

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91	Proteomic evidence of methanotrophy in methaneâ€enriched hypolimnetic lake water. Limnology and Oceanography, 2016, 61, S91.	3.1	6
92	From microbes to mammals: Pond biodiversity homogenization across different landâ€use types in an agricultural landscape. Ecological Monographs, 2022, 92, .	5.4	6
93	Dissolved organic matter signatures in urban surface waters: spatio-temporal patterns and drivers. Biogeosciences, 2022, 19, 2841-2853.	3.3	6
94	Stress as a modifier of biodiversity effects on ecosystem processes?. Journal of Animal Ecology, 2012, 81, 1143-1145.	2.8	5
95	Exploring the Suitability of Ecosystem Metabolomes to Assess Imprints of Brownification and Nutrient Enrichment on Lakes. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG005903.	3.0	5
96	Landâ€use type temporarily affects active pond community structure but not gene expression patterns. Molecular Ecology, 2022, 31, 1716-1734.	3.9	5
97	Design and implementation of an illumination system to mimic skyglow at ecosystem level in a large-scale lake enclosure facility. Scientific Reports, 2021, 11, 23478.	3.3	4
98	Importance of exposure route in determining nanosilver impacts on a stream detrital processing chain. Environmental Pollution, 2021, 290, 118088.	7.5	3
99	CONTRIBUTION OF STREAM DETRIVORES, FUNGI, AND BACTERIA TO LEAF BREAKDOWN BASED ON BIOMASS ESTIMATES. , 2002, 83, 1026.		2