

Jonathan R Leake

List of Publications by Year in descending order

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Version: 2024-02-01

110
papers

10,941
citations

23567

58
h-index

30922

102
g-index

113
all docs

113
docs citations

113
times ranked

9622
citing authors

#	ARTICLE	IF	CITATIONS
1	The biology of mycoâ€heterotrophic (â€saprophyticâ€™) plants. <i>New Phytologist</i> , 1994, 127, 171-216.	7.3	661
2	Networks of power and influence: the role of mycorrhizal mycelium in controlling plant communities and agroecosystem functioning. <i>Canadian Journal of Botany</i> , 2004, 82, 1016-1045.	1.1	534
3	Mycorrhizal fungi as drivers of ecosystem processes in heathland and boreal forest biomes. <i>Canadian Journal of Botany</i> , 2004, 82, 1243-1263.	1.1	428
4	Mapping an urban ecosystem service: quantifying aboveâ€ground carbon storage at a cityâ€wide scale. <i>Journal of Applied Ecology</i> , 2011, 48, 1125-1134.	4.0	375
5	Impacts of atmospheric nitrogen deposition: responses of multiple plant and soil parameters across contrasting ecosystems in longâ€term field experiments. <i>Global Change Biology</i> , 2012, 18, 1197-1215.	9.5	340
6	In situ ¹³ C ₂ pulse-labelling of upland grassland demonstrates a rapid pathway of carbon flux from arbuscular mycorrhizal mycelia to the soil. <i>New Phytologist</i> , 2002, 153, 327-334.	7.3	325
7	Plant communities affect arbuscular mycorrhizal fungal diversity and community composition in grassland microcosms. <i>New Phytologist</i> , 2004, 161, 503-515.	7.3	324
8	Biological weathering and the longâ€term carbon cycle: integrating mycorrhizal evolution and function into the current paradigm. <i>Geobiology</i> , 2009, 7, 171-191.	2.4	263
9	Mutualistic mycorrhiza in orchids: evidence from plantâ€fungus carbon and nitrogen transfers in the greenâ€leaved terrestrial orchid <i>Goodyera repens</i> . <i>New Phytologist</i> , 2006, 171, 405-416.	7.3	259
10	Epiparasitic plants specialized on arbuscular mycorrhizal fungi. <i>Nature</i> , 2002, 419, 389-392.	27.8	256
11	Mutualistic mycorrhiza-like symbiosis in the most ancient group of land plants. <i>Nature Communications</i> , 2010, 1, 103.	12.8	229
12	Farming with crops and rocks to address global climate, food and soil security. <i>Nature Plants</i> , 2018, 4, 138-147.	9.3	226
13	Positive responses to Zn and Cd by roots of the Zn and Cd hyperaccumulator <i>Thlaspi caerulescens</i> . <i>New Phytologist</i> , 2000, 145, 199-210.	7.3	222
14	Symbiotic germination and development of the mycoâ€heterotrophic orchid <i>Neottia nidusâ€avis</i> in nature and its requirement for locally distributed <i>Sebacina</i> spp.. <i>New Phytologist</i> , 2002, 154, 233-247.	7.3	203
15	Symbiotic germination and development of mycoâ€heterotrophic plants in nature: transfer of carbon from ectomycorrhizal <i>Salix repens</i> and <i>Betula pendula</i> to the orchid <i>Corallorhiza trifida</i> through shared hyphal connections. <i>New Phytologist</i> , 2000, 145, 539-548.	7.3	180
16	Plant-driven fungal weathering: Early stages of mineral alteration at the nanometer scale. <i>Geology</i> , 2009, 37, 615-618.	4.4	180
17	Soil microbial biomass and the fate of phosphorus during long-term ecosystem development. <i>Plant and Soil</i> , 2013, 367, 225-234.	3.7	176
18	Novel inâ€growth core system enables functional studies of grassland mycorrhizal mycelial networks. <i>New Phytologist</i> , 2001, 152, 555-562.	7.3	168

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19	Carbon fluxes from plants through soil organisms determined by field ^{13}C pulse-labelling in an upland grassland. <i>Applied Soil Ecology</i> , 2006, 33, 152-175.	4.3	164
20	Giving and receiving: measuring the carbon cost of mycorrhizas in the green orchid, <i>Goodyera repens</i> . <i>New Phytologist</i> , 2008, 180, 176-184.	7.3	163
21	First evidence of mutualism between ancient plant lineages (<i>Haplomitriopsida</i> liverworts) and <i>Mucoromycotina</i> fungi and its response to simulated Palaeozoic changes in atmospheric CO_2 . <i>New Phytologist</i> , 2015, 205, 743-756.	7.3	163
22	Organic carbon hidden in urban ecosystems. <i>Scientific Reports</i> , 2012, 2, 963.	3.3	154
23	Base cation depletion, eutrophication and acidification of species-rich grasslands in response to long-term simulated nitrogen deposition. <i>Environmental Pollution</i> , 2008, 155, 336-349.	7.5	149
24	Symbiotic germination and development of myco-heterotrophic plants in nature: ontogeny of <i>Corallorhiza trifida</i> and characterization of its mycorrhizal fungi. <i>New Phytologist</i> , 2000, 145, 523-537.	7.3	147
25	Soil Invertebrates Disrupt Carbon Flow Through Fungal Networks. <i>Science</i> , 2005, 309, 1047-1047.	12.6	135
26	Twelve testable hypotheses on the geobiology of weathering. <i>Geobiology</i> , 2011, 9, 140-165.	2.4	133
27	Transfer of recent photosynthate into mycorrhizal mycelium of an upland grassland: short-term respiratory losses and accumulation of ^{14}C . <i>Soil Biology and Biochemistry</i> , 2002, 34, 1521-1524.	8.8	119
28	Myco-heterotroph/epiparasitic plant interactions with ectomycorrhizal and arbuscular mycorrhizal fungi. <i>Current Opinion in Plant Biology</i> , 2004, 7, 422-428.	7.1	118
29	Chitin as a nitrogen source for mycorrhizal fungi. <i>Mycological Research</i> , 1990, 94, 993-995.	2.5	117
30	Land-cover effects on soil organic carbon stocks in a European city. <i>Science of the Total Environment</i> , 2014, 472, 444-453.	8.0	116
31	Evolution of trees and mycorrhizal fungi intensifies silicate mineral weathering. <i>Biology Letters</i> , 2012, 8, 1006-1011.	2.3	110
32	Simulated pollutant nitrogen deposition increases P demand and enhances root surface phosphatase activities of three plant functional types in a calcareous grassland. <i>New Phytologist</i> , 2004, 161, 279-290.	7.3	106
33	Increased yield and CO_2 sequestration potential with the C_4 cereal <i>Sorghum bicolor</i> cultivated in basaltic rock dust-amended agricultural soil. <i>Global Change Biology</i> , 2020, 26, 3658-3676.	9.5	102
34	Symbiotic germination and development of the myco-heterotroph <i>Monotropa hypopitys</i> in nature and its requirement for locally distributed <i>Tricholoma</i> spp.. <i>New Phytologist</i> , 2004, 163, 405-423.	7.3	97
35	Effects of enhanced nitrogen deposition and phosphorus limitation on nitrogen budgets of semi-natural grasslands. <i>Global Change Biology</i> , 2003, 9, 1309-1321.	9.5	96
36	Plant-driven weathering of apatite – the role of an ectomycorrhizal fungus. <i>Geobiology</i> , 2012, 10, 445-456.	2.4	96

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37	Urban cultivation in allotments maintains soil qualities adversely affected by conventional agriculture. <i>Journal of Applied Ecology</i> , 2014, 51, 880-889.	4.0	95
38	Bryophyte physiological responses to, and recovery from, long-term nitrogen deposition and phosphorus fertilisation in acidic grassland. <i>New Phytologist</i> , 2008, 180, 864-874.	7.3	92
39	Functional analysis of liverworts in dual symbiosis with Glomeromycota and Mucoromycotina fungi under a simulated Palaeozoic CO ₂ decline. <i>ISME Journal</i> , 2016, 10, 1514-1526.	9.8	92
40	Mycorrhizal Acquisition of Inorganic Phosphorus by the Green-leaved Terrestrial Orchid <i>Goodyera repens</i> . <i>Annals of Botany</i> , 2007, 99, 831-834.	2.9	91
41	Contrasting arbuscular mycorrhizal responses of vascular and non-vascular plants to a simulated Palaeozoic CO ₂ decline. <i>Nature Communications</i> , 2012, 3, 835.	12.8	91
42	Plant community composition affects the biomass, activity and diversity of microorganisms in limestone grassland soil. <i>European Journal of Soil Science</i> , 2003, 54, 671-678.	3.9	88
43	The Role of Nitrogen Deposition in Widespread Plant Community Change Across Semi-natural Habitats. <i>Ecosystems</i> , 2014, 17, 864-877.	3.4	86
44	Hyperaccumulation of Zn by <i>Thlaspi caerulescens</i> Can Ameliorate Zn Toxicity in the Rhizosphere of <i>Cocropped Thlaspi arvense</i> . <i>Environmental Science & Technology</i> , 2001, 35, 3237-3241.	10.0	83
45	Biological weathering in soil: the role of symbiotic root-associated fungi biosensing minerals and directing photosynthate-energy into grain-scale mineral weathering. <i>Mineralogical Magazine</i> , 2008, 72, 85-89.	1.4	83
46	Evaluating the effects of terrestrial ecosystems, climate and carbon dioxide on weathering over geological time: a global-scale process-based approach. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2012, 367, 565-582.	4.0	83
47	Assimilation and isotopic fractionation of nitrogen by mycorrhizal and nonmycorrhizal subarctic plants. <i>New Phytologist</i> , 2001, 151, 513-524.	7.3	81
48	Long-term nitrogen deposition depletes grassland seed banks. <i>Nature Communications</i> , 2015, 6, 6185.	12.8	76
49	Assimilation and isotopic fractionation of nitrogen by mycorrhizal fungi. <i>New Phytologist</i> , 2001, 151, 503-511.	7.3	75
50	The effects of quantity and duration of simulated pollutant nitrogen deposition on root-surface phosphatase activities in calcareous and acid grasslands: a bioassay approach. <i>New Phytologist</i> , 1999, 141, 433-442.	7.3	73
51	Liming and nitrogen fertilization affects phosphatase activities, microbial biomass and mycorrhizal colonisation in upland grassland. <i>Plant and Soil</i> , 2005, 271, 157-164.	3.7	72
52	Mid-Devonian <i>Archaeopteris</i> Roots Signal Revolutionary Change in Earliest Fossil Forests. <i>Current Biology</i> , 2020, 30, 421-431.e2.	3.9	68
53	Plants parasitic on fungi: unearthing the fungi in myco-heterotrophs and debunking the plant myth. <i>The Mycologist</i> , 2005, 19, 113.	0.4	67
54	Investigating Devonian trees as geoengineers of past climates: linking palaeosols to palaeobotany and experimental geobiology. <i>Palaeontology</i> , 2015, 58, 787-801.	2.2	66

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55	Phosphodiesterase as mycorrhizal P sources. <i>New Phytologist</i> , 1996, 132, 435-443.	7.3	64
56	The hidden potential of urban horticulture. <i>Nature Food</i> , 2020, 1, 155-159.	14.0	64
57	Physiological ecology of mycoheterotrophy. <i>New Phytologist</i> , 2010, 185, 601-605.	7.3	63
58	Title is missing!. <i>Plant and Soil</i> , 2001, 237, 147-156.	3.7	62
59	The role of forest trees and their mycorrhizal fungi in carbonate rock weathering and its significance for global carbon cycling. <i>Plant, Cell and Environment</i> , 2015, 38, 1947-1961.	5.7	60
60	Health benefits of 'grow your own' food in urban areas: implications for contaminated land risk assessment and risk management?. <i>Environmental Health</i> , 2009, 8, S6.	4.0	58
61	Fungal fidelity in the mycoâ€heterotrophâ€toâ€autotroph life cycle of Lycopodiaceae: a case of parental nurture?. <i>New Phytologist</i> , 2008, 177, 572-576.	7.3	57
62	Phosphodiesterases as mycorrhizal P sources. <i>New Phytologist</i> , 1996, 132, 445-451.	7.3	55
63	Constraining the role of early land plants in Palaeozoic weathering and global cooling. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2015, 282, 20151115.	2.6	54
64	Are soils in urban ecosystems compacted? A citywide analysis. <i>Biology Letters</i> , 2011, 7, 771-774.	2.3	53
65	Identifying potential sources of variability between vegetation carbon storage estimates for urban areas. <i>Environmental Pollution</i> , 2013, 183, 133-142.	7.5	53
66	The effects of phenolic compounds on nitrogen mobilisation by ericoid mycorrhizal systems. <i>Agriculture, Ecosystems and Environment</i> , 1990, 29, 225-236.	5.3	52
67	Zinc accumulation by <i>Thlaspi caerulescens</i> from soils with different Zn availability: a pot study. <i>Plant and Soil</i> , 2001, 236, 11-18.	3.7	51
68	Increased susceptibility to droughtâ€induced mortality in <i>Sequoia sempervirens</i> (Cupressaceae) trees under Cenozoic atmospheric carbon dioxide starvation. <i>American Journal of Botany</i> , 2013, 100, 582-591.	1.7	51
69	Black Carbon Contribution to Organic Carbon Stocks in Urban Soil. <i>Environmental Science & Technology</i> , 2015, 49, 8339-8346.	10.0	48
70	Functional complementarity of ancient plantâ€fungal mutualisms: contrasting nitrogen, phosphorus and carbon exchanges between Mucoromycotina and Glomeromycotina fungal symbionts of liverworts. <i>New Phytologist</i> , 2019, 223, 908-921.	7.3	47
71	Effects of mineralogy, chemistry and physical properties of basalts on carbon capture potential and plant-nutrient element release via enhanced weathering. <i>Applied Geochemistry</i> , 2021, 132, 105023.	3.0	42
72	Temperature regulation of extracellular proteases in ectomycorrhizal fungi (<i>Hebeloma</i> spp.) grown in axenic culture. <i>Mycological Research</i> , 1999, 103, 707-714.	2.5	41

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73	Ectomycorrhizal fungi and past high CO ₂ atmospheres enhance mineral weathering through increased below-ground carbon-energy fluxes. <i>Biology Letters</i> , 2014, 10, 20140375.	2.3	40
74	Feeding a city – Leicester as a case study of the importance of allotments for horticultural production in the UK. <i>Science of the Total Environment</i> , 2020, 705, 135930.	8.0	40
75	Is diversity of ectomycorrhizal fungi important for ecosystem function?. <i>New Phytologist</i> , 2001, 152, 1-3.	7.3	39
76	Measurement and analysis of household carbon: The case of a UK city. <i>Applied Energy</i> , 2016, 164, 871-881.	10.1	39
77	Development, persistence and regeneration of foraging ectomycorrhizal mycelial systems in soil microcosms. <i>Mycorrhiza</i> , 2004, 14, 37-45.	2.8	38
78	Modeling the evolutionary rise of ectomycorrhiza on sub-surface weathering environments and the geochemical carbon cycle. <i>Numerische Mathematik</i> , 2011, 311, 369-403.	1.4	37
79	From mycoheterotrophy to mutualism: mycorrhizal specificity and functioning in <i>Opogon saccatum</i> sporophytes. <i>New Phytologist</i> , 2015, 205, 1492-1502.	7.3	37
80	High resolution characterization of ectomycorrhizal fungal-mineral interactions in axenic microcosm experiments. <i>Biogeochemistry</i> , 2012, 111, 411-425.	3.5	35
81	The role of ericoid mycorrhizas in the ecology of ericaceous plants. <i>Agriculture, Ecosystems and Environment</i> , 1990, 29, 237-250.	5.3	32
82	Urban Tree Effects on Soil Organic Carbon. <i>PLoS ONE</i> , 2014, 9, e101872.	2.5	32
83	Estimating food production in an urban landscape. <i>Scientific Reports</i> , 2020, 10, 5141.	3.3	31
84	Ectomycorrhizal weathering, a matter of scale?. <i>Mineralogical Magazine</i> , 2008, 72, 131-134.	1.4	30
85	Legume microbiome interactions unlock mineral nutrients in regrowing tropical forests. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	30
86	Ecosystem CO ₂ starvation and terrestrial silicate weathering: mechanisms and global-scale quantification during the late Miocene. <i>Journal of Ecology</i> , 2012, 100, 31-41.	4.0	27
87	Nanoscale Observations of Extracellular Polymeric Substances Deposition on Phyllosilicates by an Ectomycorrhizal Fungus. <i>Geomicrobiology Journal</i> , 2013, 30, 721-730.	2.0	26
88	N ₂ -fixing tropical legume evolution: a contributor to enhanced weathering through the Cenozoic?. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2017, 284, 20170370.	2.6	26
89	Effect of earthworms on soil physico-hydraulic and chemical properties, herbage production, and wheat growth on arable land converted to ley. <i>Science of the Total Environment</i> , 2020, 713, 136491.	8.0	26
90	In situ atomic force microscopy measurements of biotite basal plane reactivity in the presence of oxalic acid. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 6870-6881.	3.9	25

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91	Niche differentiation and plasticity in soil phosphorus acquisition among co-occurring plants. <i>Nature Plants</i> , 2020, 6, 349-354.	9.3	25
92	Nanoscale channels on ectomycorrhizal-colonized chlorite: Evidence for plant-driven fungal dissolution. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	24
93	Plants parasitic on fungi: unearthing the fungi in myco-heterotrophs and debunking the "saprophytic" plant myth. <i>The Mycologist</i> , 2005, 19, 113-122.	0.4	23
94	Weathering by tree-root-associating fungi diminishes under simulated Cenozoic atmospheric CO ₂ decline. <i>Biogeosciences</i> , 2014, 11, 321-331.	3.3	23
95	Recovery of soil nitrogen pools in species-rich grasslands after 12 years of simulated pollutant nitrogen deposition: a 6-year experimental analysis. <i>Global Change Biology</i> , 2011, 17, 2615-2628.	9.5	21
96	Modelling short-rotation coppice and tree planting for urban carbon management – a citywide analysis. <i>Journal of Applied Ecology</i> , 2015, 52, 1237-1245.	4.0	18
97	Untangling above- and belowground mycorrhizal fungal networks in tropical orchids. <i>Molecular Ecology</i> , 2012, 21, 4921-4924.	3.9	17
98	High-resolution imaging of biotite dissolution and measurement of activation energy. <i>Mineralogical Magazine</i> , 2008, 72, 115-120.	1.4	16
99	Designing a carbon capture function into urban soils. <i>Proceedings of the Institution of Civil Engineers: Urban Design and Planning</i> , 2011, 164, 121-128.	0.7	16
100	Grow your own food security? Integrating science and citizen science to estimate the contribution of own growing to UK food production. <i>Plants People Planet</i> , 2019, 1, 93-97.	3.3	16
101	Soil quality regeneration by grass-clover leys in arable rotations compared to permanent grassland: Effects on wheat yield and resilience to drought and flooding. <i>Soil and Tillage Research</i> , 2021, 212, 105037.	5.6	16
102	Arable fields as potential reservoirs of biodiversity: Earthworm populations increase in new leys. <i>Science of the Total Environment</i> , 2021, 789, 147880.	8.0	12
103	Accumulation of Pollutant Nitrogen in Calcareous and Acidic Grasslands: Evidence from N Flux and 15N Tracer Studies. <i>Water, Air and Soil Pollution</i> , 2004, 4, 159-167.	0.8	11
104	Plant and mycorrhizal driven silicate weathering: Quantifying carbon flux and mineral weathering processes at the laboratory mesocosm scale. <i>Applied Geochemistry</i> , 2011, 26, S314-S316.	3.0	8
105	Phosphate availability and ectomycorrhizal symbiosis with <i>Pinus sylvestris</i> have independent effects on the <i>Paxillus involutus</i> transcriptome. <i>Mycorrhiza</i> , 2021, 31, 69-83.	2.8	7
106	Role of arbuscular mycorrhizal fungi in carbon and nutrient cycling in grassland. , 2006, , 129-150.		3
107	Mycorrhizas and the terrestrial carbon cycle: roles in global carbon sequestration and plant community composition. , 2007, , 161-184.		2
108	Mycelial activity. <i>New Phytologist</i> , 2002, 155, 6-7.	7.3	0

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109	Accumulation of pollutant nitrogen in calcareous and acidic grasslands: Evidence from N flux and ¹⁵ N tracer studies. <i>Water, Air and Soil Pollution</i> , 2005, 4, 159-167.	0.8	0
110	Soil and the city. <i>Frontiers in Ecology and the Environment</i> , 2015, 13, 241-241.	4.0	0