Jonathan R Leake

List of Publications by Year
in descending order

110 papers	10,941 citations	23500 58 h-index	30848 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. New Phytologist, 1994, 127, 171-216.	3.5	661
2	Networks of power and influence: the role of mycorrhizal mycelium in controlling plant communities and agroecosystem functioning. Canadian Journal of Botany, 2004, 82, 1016-1045.	1.2	534
3	Mycorrhizal fungi as drivers of ecosystem processes in heathland and boreal forest biomes. Canadian Journal of Botany, 2004, 82, 1243-1263.	1.2	428
4	Mapping an urban ecosystem service: quantifying aboveâ€ground carbon storage at a cityâ€wide scale. Journal of Applied Ecology, 2011, 48, 1125-1134.	1.9	375
5	Impacts of atmospheric nitrogen deposition: responses of multiple plant and soil parameters across contrasting ecosystems in longâ€term field experiments. Global Change Biology, 2012, 18, 1197-1215.	4.2	340
6	In situ 13CO2 pulse-labelling of upland grassland demonstrates a rapid pathway of carbon flux from arbuscular mycorrhizal mycelia to the soil. New Phytologist, 2002, 153, 327-334.	3.5	325
7	Plant communities affect arbuscular mycorrhizal fungal diversity and community composition in grassland microcosms. New Phytologist, 2004, 161, 503-515.	3.5	324
8	Biological weathering and the longâ€term carbon cycle: integrating mycorrhizal evolution and function into the current paradigm. Geobiology, 2009, 7, 171-191.	1.1	263
9	Mutualistic mycorrhiza in orchids: evidence from plantâ€“fungus carbon and nitrogen transfers in the greenâ€leaved terrestrial orchid GoodyeraÂrepens. New Phytologist, 2006, 171, 405-416.	3.5	259
10	Epiparasitic plants specialized on arbuscular mycorrhizal fungi. Nature, 2002, 419, 389-392.	13.7	256
11	Mutualistic mycorrhiza-like symbiosis in the most ancient group of land plants. Nature Communications, 2010, 1, 103.	5.8	229
12	Farming with crops and rocks to address global climate, food and soil security. Nature Plants, 2018, 4, 138-147.	4.7	226
13	Positive responses to Zn and Cd by roots of the Zn and Cd hyperaccumulator Thlaspi caerulescens. New Phytologist, 2000, 145, 199-210.	3.5	222
14	Symbiotic germination and development of the mycoâ€heterotrophic orchid Neottia nidusâ€avis in nature and its requirement for locally distributed Sebacina spp.. New Phytologist, 2002, 154, 233-247.	3.5	203
15	Symbiotic germination and development of mycoâ€heterotrophic plants in nature: transfer of carbon from ectomycorrhizal Salix repens and Betula pendula to the orchid Corallorhiza trifida through shared hyphal connections. New Phytologist, 2000, 145, 539-548.	3.5	180
16	Plant-driven fungal weathering: Early stages of mineral alteration at the nanometer scale. Geology, 2009, 37, 615-618.	2.0	180
17	Soil microbial biomass and the fate of phosphorus during long-term ecosystem development. Plant and Soil, 2013, 367, 225-234.	1.8	176
18	Novel inâ€growth core system enables functional studies of grassland mycorrhizal mycelial networks. New Phytologist, 2001, 152, 555-562.	3.5	168

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19	Carbon fluxes from plants through soil organisms determined by field 13CO2 pulse-labelling in an upland grassland. Applied Soil Ecology, 2006, 33, 152-175.	2.1	164
20	Giving and receiving: measuring the carbon cost of mycorrhizas in the green orchid, <i>Goodyera repens</i>. New Phytologist, 2008, 180, 176-184.	3.5	163
21	First evidence of mutualism between ancient plant lineages (<scp>H</scp>aplomitriopsida liverworts) and <scp>M</scp>ucoromycotina fungi and its response to simulated <scp>P</scp>alaeozoic changes in atmospheric <scp>CO</scp>₂. New Phytologist, 2015, 205, 743-756.	3.5	163
22	Organic carbon hidden in urban ecosystems. Scientific Reports, 2012, 2, 963.	1.6	154
23	Base cation depletion, eutrophication and acidification of species-rich grasslands in response to long-term simulated nitrogen deposition. Environmental Pollution, 2008, 155, 336-349.	3.7	149
24	Symbiotic germination and development of mycoâ€heterotrophic plants in nature: ontogeny of Corallorhiza trifida and characterization of its mycorrhizal fungi. New Phytologist, 2000, 145, 523-537.	3.5	147
25	Soil Invertebrates Disrupt Carbon Flow Through Fungal Networks. Science, 2005, 309, 1047-1047.	6.0	135
26	Twelve testable hypotheses on the geobiology of weathering. Geobiology, 2011, 9, 140-165.	1.1	133
27	Transfer of recent photosynthate into mycorrhizal mycelium of an upland grassland: short-term respiratory losses and accumulation of 14C. Soil Biology and Biochemistry, 2002, 34, 1521-1524.	4.2	119
28	Myco-heterotroph/epiparasitic plant interactions with ectomycorrhizal and arbuscular mycorrhizal fungi. Current Opinion in Plant Biology, 2004, 7, 422-428.	3.5	118
29	Chitin as a nitrogen source for mycorrhizal fungi. Mycological Research, 1990, 94, 993-995.	2.5	117
30	Land-cover effects on soil organic carbon stocks in a European city. Science of the Total Environment, 2014, 472, 444-453.	3.9	116
31	Evolution of trees and mycorrhizal fungi intensifies silicate mineral weathering. Biology Letters, 2012, 8, 1006-1011.	1.0	110
32	Simulated pollutant nitrogen deposition increases P demand and enhances rootâ€surface phosphatase activities of three plant functional types in a calcareous grassland. New Phytologist, 2004, 161, 279-290.	3.5	106
33	Increased yield and CO₂ sequestration potential with the C₄ cereal <i>Sorghum bicolor</i> cultivated in basaltic rock dustâ€amended agricultural soil. Global Change Biology, 2020, 26, 3658-3676.	4.2	102
34	Symbiotic germination and development of the mycoâ€heterotroph Monotropa hypopitys in nature and its requirement for locally distributed Tricholoma spp.. New Phytologist, 2004, 163, 405-423.	3.5	97
35	Effects of enhanced nitrogen deposition and phosphorus limitation on nitrogen budgets of semi-natural grasslands. Global Change Biology, 2003, 9, 1309-1321.	4.2	96
36	Plantâ€driven weathering of apatite â€“ the role of an ectomycorrhizal fungus. Geobiology, 2012, 10, 445-456.	1.1	96

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37	Urban cultivation in allotments maintains soil qualities adversely affected by conventional agriculture. Journal of Applied Ecology, 2014, 51, 880-889.	1.9	95
38	Bryophyte physiological responses to, and recovery from, longâ€term nitrogen deposition and phosphorus fertilisation in acidic grassland. New Phytologist, 2008, 180, 864-874.	3.5	92
39	Functional analysis of liverworts in dual symbiosis with Glomeromycota and Mucoromycotina fungi under a simulated Palaeozoic CO2 decline. ISME Journal, 2016, 10, 1514-1526.	4.4	92
40	Mycorrhizal Acquisition of Inorganic Phosphorus by the Green-leaved Terrestrial Orchid Goodyera repens. Annals of Botany, 2007, 99, 831-834.	1.4	91
41	Contrasting arbuscular mycorrhizal responses of vascular and non-vascular plants to a simulated Palaeozoic CO2 decline. Nature Communications, 2012, 3, 835.	5.8	91
42	Plant community composition affects the biomass, activity and diversity of microorganisms in limestone grassland soil. European Journal of Soil Science, 2003, 54, 671-678.	1.8	88
43	The Role of Nitrogen Deposition in Widespread Plant Community Change Across Semi-natural Habitats. Ecosystems, 2014, 17, 864-877.	1.6	86
44	Hyperaccumulation of Zn byThlaspi caerulescensCan Ameliorate Zn Toxicity in the Rhizosphere of CocroppedThlaspi arvense. Environmental Science & Technology, 2001, 35, 3237-3241.	4.6	83
45	Biological weathering in soil: the role of symbiotic root-associated fungi biosensing minerals and directing photosynthate-energy into grain-scale mineral weathering. Mineralogical Magazine, 2008, 72, 85-89.	0.6	83
46	Evaluating the effects of terrestrial ecosystems, climate and carbon dioxide on weathering over geological time: a global-scale process-based approach. Philosophical Transactions of the Royal Society B: Biological Sciences, 2012, 367, 565-582.	1.8	83
47	Assimilation and isotopic fractionation of nitrogen by mycorrhizal and nonmycorrhizal subarctic plants. New Phytologist, 2001, 151, 513-524.	3.5	81
48	Long-term nitrogen deposition depletes grassland seed banks. Nature Communications, 2015, 6, 6185.	5.8	76
49	Assimilation and isotopic fractionation of nitrogen by mycorrhizal fungi. New Phytologist, 2001, 151, 503-511.	3.5	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. New Phytologist, 1999, 141, 433-442.	3.5	73
51	Liming and nitrogen fertilization affects phosphatase activities, microbial biomass and mycorrhizal colonisation in upland grassland. Plant and Soil, 2005, 271, 157-164.	1.8	72
52	Mid-Devonian Archaeopteris Roots Signal Revolutionary Change in Earliest Fossil Forests. Current Biology, 2020, 30, 421-431.e2.	1.8	68
53	Plants parasitic on fungi: unearthing the fungi in myco-heterotrophs and debunking the plant myth. The Mycologist, 2005, 19, 113.	0.5	67
54	Investigating <scp>D</scp>evonian trees as geoâ€engineers of past climates: linking palaeosols to palaeobotany and experimental geobiology. Palaeontology, 2015, 58, 787-801.	1.0	66

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55	Phosphodiesterase as mycorrhizal P sources. New Phytologist, 1996, 132, 435-443.	3.5	64
56	The hidden potential of urban horticulture. Nature Food, 2020, 1, 155-159.	6.2	64
57	Physiological ecology of mycoheterotrophy. New Phytologist, 2010, 185, 601-605.	3.5	63
58	Title is missing!. Plant and Soil, 2001, 237, 147-156.	1.8	62
59	The role of forest trees and their mycorrhizal fungi in carbonate rock weathering and its significance for global carbon cycling. Plant, Cell and Environment, 2015, 38, 1947-1961.	2.8	60
60	Health benefits of 'grow your own' food in urban areas: implications for contaminated land risk assessment and risk management?. Environmental Health, 2009, 8, S6.	1.7	58
61	Fungal fidelity in the mycoâ€heterotrophâ€toâ€autotroph life cycle of Lycopodiaceae: a case of parental nurture?. New Phytologist, 2008, 177, 572-576.	3.5	57
62	Phosphodiesters as mycorrhizal P sources. New Phytologist, 1996, 132, 445-451.	3.5	55
63	Constraining the role of early land plants in Palaeozoic weathering and global cooling. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20151115.	1.2	54
64	Are soils in urban ecosystems compacted? A citywide analysis. Biology Letters, 2011, 7, 771-774.	1.0	53
65	Identifying potential sources of variability between vegetation carbon storage estimates for urban areas. Environmental Pollution, 2013, 183, 133-142.	3.7	53
66	The effects of phenolic compounds on nitrogen mobilisation by ericoid mycorrhizal systems. Agriculture, Ecosystems and Environment, 1990, 29, 225-236.	2.5	52
67	Zinc accumulation by Thlaspi caerulescens from soils with different Zn availability: a pot study. Plant and Soil, 2001, 236, 11-18.	1.8	51
68	Increased susceptibility to droughtâ€induced mortality in <i>Sequoia sempervirens</i> (Cupressaceae) trees under Cenozoic atmospheric carbon dioxide starvation. American Journal of Botany, 2013, 100, 582-591.	0.8	51
69	Black Carbon Contribution to Organic Carbon Stocks in Urban Soil. Environmental Science & Technology, 2015, 49, 8339-8346.	4.6	48
70	Functional complementarity of ancient plantâ€"fungal mutualisms: contrasting nitrogen, phosphorus and carbon exchanges between Mucoromycotina and Glomeromycotina fungal symbionts of liverworts. New Phytologist, 2019, 223, 908-921.	3.5	47
71	Effects of mineralogy, chemistry and physical properties of basalts on carbon capture potential and plant-nutrient element release via enhanced weathering. Applied Geochemistry, 2021, 132, 105023.	1.4	42
72	Temperature regulation of extracellular proteases in ectomycorrhizal fungi (Hebeloma spp.) grown in axenic culture. Mycological Research, 1999, 103, 707-714.	2.5	41

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73	Ectomycorrhizal fungi and past high CO₂atmospheres enhance mineral weathering through increased below-ground carbon-energy fluxes. Biology Letters, 2014, 10, 20140375.	1.0	40
74	Feeding a city â€" Leicester as a case study of the importance of allotments for horticultural production in the UK. Science of the Total Environment, 2020, 705, 135930.	3.9	40
75	Is diversity of ectomycorrhizal fungi important for ecosystem function?. New Phytologist, 2001, 152, 1-3.	3.5	39
76	Measurement and analysis of household carbon: The case of a UK city. Applied Energy, 2016, 164, 871-881.	5.1	39
77	Development, persistence and regeneration of foraging ectomycorrhizal mycelial systems in soil microcosms. Mycorrhiza, 2004, 14, 37-45.	1.3	38
78	Modeling the evolutionary rise of ectomycorrhiza on sub-surface weathering environments and the geochemical carbon cycle. Numerische Mathematik, 2011, 311, 369-403.	0.7	37
79	From mycoheterotrophy to mutualism: mycorrhizal specificity and functioning in <i><scp>O</scp>phioglossum vulgatum</i> sporophytes. New Phytologist, 2015, 205, 1492-1502.	3.5	37
80	High resolution characterization of ectomycorrhizal fungal-mineral interactions in axenic microcosm experiments. Biogeochemistry, 2012, 111, 411-425.	1.7	35
81	The role of ericoid mycorrhizas in the ecology of ericaceous plants. Agriculture, Ecosystems and Environment, 1990, 29, 237-250.	2.5	32
82	Urban Tree Effects on Soil Organic Carbon. PLoS ONE, 2014, 9, e101872.	1.1	32
83	Estimating food production in an urban landscape. Scientific Reports, 2020, 10, 5141.	1.6	31
84	Ectomycorrhizal weathering, a matter of scale?. Mineralogical Magazine, 2008, 72, 131-134.	0.6	30
85	Legumeâ€"microbiome interactions unlock mineral nutrients in regrowing tropical forests. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	30
86	Ecosystem CO₂ starvation and terrestrial silicate weathering: mechanisms and globalâ€scale quantification during the late Miocene. Journal of Ecology, 2012, 100, 31-41.	1.9	27
87	Nanoscale Observations of Extracellular Polymeric Substances Deposition on Phyllosilicates by an Ectomycorrhizal Fungus. Geomicrobiology Journal, 2013, 30, 721-730.	1.0	26
88	N₂-fixing tropical legume evolution: a contributor to enhanced weathering through the Cenozoic?. Proceedings of the Royal Society B: Biological Sciences, 2017, 284, 20170370.	1.2	26
89	Effect of earthworms on soil physico-hydraulic and chemical properties, herbage production, and wheat growth on arable land converted to ley. Science of the Total Environment, 2020, 713, 136491.	3.9	26
90	In situ atomic force microscopy measurements of biotite basal plane reactivity in the presence of oxalic acid. Geochimica Et Cosmochimica Acta, 2011, 75, 6870-6881.	1.6	25

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91	Niche differentiation and plasticity in soil phosphorus acquisition among co-occurring plants. Nature Plants, 2020, 6, 349-354.	4.7	25
92	Nanoscale channels on ectomycorrhizalâ€colonized chlorite: Evidence for plantâ€driven fungal dissolution. Journal of Geophysical Research, 2012, 117, .	3.3	24
93	Plants parasitic on fungi: unearthing the fungi in myco-heterotrophs and debunking the â€˜saprophyticâ€™ plant myth. The Mycologist, 2005, 19, 113-122.	0.5	23
94	Weathering by tree-root-associating fungi diminishes under simulated Cenozoic atmospheric CO₂ decline. Biogeosciences, 2014, 11, 321-331.	1.3	23
95	Recovery of soil nitrogen pools in species-rich grasslands after 12 years of simulated pollutant nitrogen deposition: a 6-year experimental analysis. Global Change Biology, 2011, 17, 2615-2628.	4.2	21
96	Modelling shortâ€rotation coppice and tree planting for urban carbon management â€“ a citywide analysis. Journal of Applied Ecology, 2015, 52, 1237-1245.	1.9	18
97	Untangling aboveâ€and belowground mycorrhizal fungal networks in tropical orchids. Molecular Ecology, 2012, 21, 4921-4924.	2.0	17
98	High-resolution imaging of biotite dissolution and measurement of activation energy. Mineralogical Magazine, 2008, 72, 115-120.	0.6	16
99	Designing a carbon capture function into urban soils. Proceedings of the Institution of Civil Engineers: Urban Design and Planning, 2011, 164, 121-128.	0.6	16
100	Grow your own food security? Integrating science and citizen science to estimate the contribution of own growing to UK food production. Plants People Planet, 2019, 1, 93-97.	1.6	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. Soil and Tillage Research, 2021, 212, 105037.	2.6	16
102	Arable fields as potential reservoirs of biodiversity: Earthworm populations increase in new leys. Science of the Total Environment, 2021, 789, 147880.	3.9	12
103	Accumulation of Pollutant Nitrogen in Calcareous and Acidic Grasslands: Evidence from N Flux and 15N Tracer Studies. Water, Air and Soil Pollution, 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. Applied Geochemistry, 2011, 26, S314-S316.	1.4	8
105	Phosphate availability and ectomycorrhizal symbiosis with Pinus sylvestris have independent effects on the Paxillus involutus transcriptome. Mycorrhiza, 2021, 31, 69-83.	1.3	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. New Phytologist, 2002, 155, 6-7.	3.5	0

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109	Accumulation of pollutant nitrogen in calcareous and acidic grasslands: Evidence from N flux and 15N tracer studies. Water, Air and Soil Pollution, 2005, 4, 159-167.	0.8	0
110	Soil and the city. Frontiers in Ecology and the Environment, 2015, 13, 241-241.	1.9	0