Richard D Bardgett

List of Publications by Year
in descending order

#	Article	IF	Citations
1	The unseen majority: soil microbes as drivers of plant diversity and productivity in terrestrial ecosystems. Ecology Letters, 2008, 11, 296-310.	6.4	3,691
2	Ecological Linkages Between Aboveground and Belowground Biota. Science, 2004, 304, 1629-1633.	12.6	3,502
3	Belowground biodiversity and ecosystem functioning. Nature, 2014, 515, 505-511.	27.8	2,371
4	A global atlas of the dominant bacteria found in soil. Science, 2018, 359, 320-325.	12.6	1,386
5	Plantâ€"soil feedbacks: the past, the present and future challenges. Journal of Ecology, 2013, 101, 265-276.	4.0	1,259
6	Plant functional traits and soil carbon sequestration in contrasting biomes. Ecology Letters, 2008, 11, 516-531.	6.4	1,101
7	Soil bacterial networks are less stable under drought than fungal networks. Nature Communications, 2018, 9, 3033.	12.8	992
8	Ecosystem Properties and Forest Decline in Contrasting Long-Term Chronosequences. Science, 2004, 305, 509-513.	12.6	914
9	The use of chronosequences in studies of ecological succession and soil development. Journal of Ecology, 2010, 98, 725-736.	4.0	896
10	Microbial contributions to climate change through carbon cycle feedbacks. ISME Journal, 2008, 2, 805-814.	9.8	888
11	Going underground: root traits as drivers of ecosystem processes. Trends in Ecology and Evolution, 2014, 29, 692-699.	8.7	881
12	HERBIVORE-MEDIATED LINKAGES BETWEEN ABOVEGROUND AND BELOWGROUND COMMUNITIES. Ecology, 2003, 84, 2258-2268.	3.2	871
13	Towards an assessment of multiple ecosystem processes and services via functional traits. Biodiversity and Conservation, 2010, 19, 2873-2893.	2.6	759
14	A temporal approach to linking aboveground and belowground ecology. Trends in Ecology and Evolution, 2005, 20, 634-641.	8.7	706
15	Intensive agriculture reduces soil biodiversity across Europe. Global Change Biology, 2015, 21, 973-985.	9.5	641
16	Soil nematode abundance and functional group composition at a global scale. Nature, 2019, 572, 194-198.	27.8	635
17	Changes in soil fungal:bacterial biomass ratios following reductions in the intensity of management of an upland grassland. Biology and Fertility of Soils, 1996, 22, 261-264.	4.3	558
18	Soil food web properties explain ecosystem services across European land use systems. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 14296-14301.	7.1	520

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19	Abiotic drivers and plant traits explain landscapeâ€scale patterns in soil microbial communities. Ecology Letters, 2012, 15, 1230-1239.	6.4	511
20	Land use alters the resistance and resilience of soil food webs to drought. Nature Climate Change, 2012, 2, 276-280.	18.8	480
21	Evolutionary history resolves global organization of root functional traits. Nature, 2018, 555, 94-97.	27.8	463
22	PLANT REMOVALS IN PERENNIAL GRASSLAND: VEGETATION DYNAMICS, DECOMPOSERS, SOIL BIODIVERSITY, AND ECOSYSTEM PROPERTIES. Ecological Monographs, 1999, 69, 535-568.	5.4	415
23	Combatting global grassland degradation. Nature Reviews Earth & Environment, 2021, 2, 720-735.	29.7	377
24	The measurement of soil fungal:bacterial biomass ratios as an indicator of ecosystem self-regulation in temperate meadow grasslands. Biology and Fertility of Soils, 1999, 29, 282-290.	4.3	358
25	Ecosystem feedbacks and cascade processes: understanding their role in the responses of Arctic and alpine ecosystems to environmental change. Global Change Biology, 2009, 15, 1153-1172.	9.5	344
26	Understanding ecosystem retrogression. Ecological Monographs, 2010, 80, 509-529.	5.4	342
27	A few Ascomycota taxa dominate soil fungal communities worldwide. Nature Communications, 2019, 10, 2369.	12.8	341
28	SOIL MICROBES COMPETE EFFECTIVELY WITH PLANTS FOR ORGANIC-NITROGEN INPUTS TO TEMPERATE GRASSLANDS. Ecology, 2003, 84, 1277-1287.	3.2	313
29	Linkages of plant traits to soil properties and the functioning of temperate grassland. Journal of Ecology, 2010, 98, 1074-1083.	4.0	308
30	Drying and rewetting effects on soil microbial community composition and nutrient leaching. Soil Biology and Biochemistry, 2008, 40, 302-311.	8.8	299
31	A plant perspective on nitrogen cycling in the rhizosphere. Functional Ecology, 2019, 33, 540-552.	3.6	292
32	Root traits as drivers of plant and ecosystem functioning: current understanding, pitfalls and future research needs. New Phytologist, 2021, 232, 1123-1158.	7.3	277
33	Relative contributions of plant traits and soil microbial properties to mountain grassland ecosystem services. Journal of Ecology, 2013, 101, 47-57.	4.0	265
34	Climate change effects on plant-soil feedbacks and consequences for biodiversity and functioning of terrestrial ecosystems. Science Advances, 2019, 5, eaaz1834.	10.3	245
35	Stakeholder perceptions of grassland ecosystem services in relation to knowledge on soil fertility and biodiversity. Regional Environmental Change, 2011, 11, 791-804.	2.9	239
36	PREFERENCES FOR DIFFERENT NITROGEN FORMS BY COEXISTING PLANT SPECIES AND SOIL MICROBES. Ecology, 2007, 88, 989-999.	3.2	237

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37	Integrating plantâ€“soil interactions into global carbon cycle models. Journal of Ecology, 2009, 97, 851-863.	4.0	233
38	Preferential uptake of soil nitrogen forms by grassland plant species. Oecologia, 2005, 142, 627-635.	2.0	222
39	Legacy effects of drought on plantâ€“soil feedbacks and plantâ€“plant interactions. New Phytologist, 2017, 215, 1413-1424.	7.3	213
40	Plant diversity and root traits benefit physical properties key to soil function in grasslands. Ecology Letters, 2016, 19, 1140-1149.	6.4	211
41	Predicting the structure of soil communities from plant community taxonomy, phylogeny, and traits. ISME Journal, 2018, 12, 1794-1805.	9.8	210
42	A novel framework for linking functional diversity of plants with other trophic levels for the quantification of ecosystem services. Journal of Vegetation Science, 2013, 24, 942-948.	2.2	209
43	Heterotrophic microbial communities use ancient carbon following glacial retreat. Biology Letters, 2007, 3, 487-490.	2.3	201
44	Biogeochemical plantâ€“soil microbe feedback in response to climate warming in peatlands. Nature Climate Change, 2013, 3, 273-277.	18.8	195
45	Parasitic plants indirectly regulate below-ground properties in grassland ecosystems. Nature, 2006, 439, 969-972.	27.8	193
46	Blind spots in global soil biodiversity and ecosystem function research. Nature Communications, 2020, 11, 3870.	12.8	192
47	Linking vegetation change, carbon sequestration and biodiversity: insights from island ecosystems in a longâ€term natural experiment. Journal of Ecology, 2012, 100, 16-30.	4.0	191
48	Soil microbial diversityâ€“biomass relationships are driven by soil carbon content across global biomes. ISME Journal, 2021, 15, 2081-2091.	9.8	186
49	Microbial community composition explains soil respiration responses to changing carbon inputs along an <scp>A</scp>ndesâ€toâ€<scp>A</scp>mazon elevation gradient. Journal of Ecology, 2014, 102, 1058-1071.	4.0	181
50	Warming effects on greenhouse gas fluxes in peatlands are modulated by vegetation composition. Ecology Letters, 2013, 16, 1285-1293.	6.4	176
51	Hierarchical responses of plantâ€“soil interactions to climate change: consequences for the global carbon cycle. Journal of Ecology, 2013, 101, 334-343.	4.0	173
52	Influence of plant species and soil conditions on plantâ€“soil feedback in mixed grassland communities. Journal of Ecology, 2010, 98, 384-395.	4.0	171
53	Globalâ€scale patterns of assemblage structure of soil nematodes in relation to climate and ecosystem properties. Global Ecology and Biogeography, 2014, 23, 968-978.	5.8	171
54	Long-Term Consequences of Grazing and Burning on Northern Peatland Carbon Dynamics. Ecosystems, 2007, 10, 1069-1083.	3.4	165

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55	Molecular study of worldwide distribution and diversity of soil animals. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 17720-17725.	7.1	165
56	Aridity-driven shift in biodiversityâ€"soil multifunctionality relationships. Nature Communications, 2021, 12, 5350.	12.8	164
57	Fungal diversity regulates plant-soil feedbacks in temperate grassland. Science Advances, 2018, 4, eaau4578.	10.3	161
58	Discontinuity in the responses of ecosystem processes and multifunctionality to altered soil community composition. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14478-14483.	7.1	157
59	Vascular plant success in a warming Antarctic may be due to efficient nitrogen acquisition. Nature Climate Change, 2011, 1, 50-53.	18.8	151
60	Changes in belowground biodiversity during ecosystem development. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6891-6896.	7.1	151
61	Tracking, targeting, and conserving soil biodiversity. Science, 2021, 371, 239-241.	12.6	151
62	Soil microbial community responses to climate extremes: resistance, resilience and transitions to alternative states. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190112.	4.0	146
63	Additional carbon sequestration benefits of grassland diversity restoration. Journal of Applied Ecology, 2011, 48, 600-608.	4.0	145
64	Plant functional group identity influences shortâ€term peatland ecosystem carbon flux: evidence from a plant removal experiment. Functional Ecology, 2009, 23, 454-462.	3.6	139
65	Reduced microbial stability in the active layer is associated with carbon loss under alpine permafrost degradation. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	138
66	Soil Invertebrates Disrupt Carbon Flow Through Fungal Networks. Science, 2005, 309, 1047-1047.	12.6	135
67	Vegetation composition promotes carbon and nitrogen storage in model grassland communities of contrasting soil fertility. Journal of Ecology, 2009, 97, 864-875.	4.0	134
68	Stability of above-ground and below-ground processes to extreme drought in model grassland ecosystems: Interactions with plant species diversity and soil nitrogen availability. Perspectives in Plant Ecology, Evolution and Systematics, 2012, 14, 193-204.	2.7	132
69	Plant species richness, identity and productivity differentially influence key groups of microbes in grassland soils of contrasting fertility. Biology Letters, 2011, 7, 75-78.	2.3	129
70	Linking soil microbial communities to vascular plant abundance along a climate gradient. New Phytologist, 2015, 205, 1175-1182.	7.3	119
71	Acquisition and Assimilation of Nitrogen as Peptide-Bound and D-Enantiomers of Amino Acids by Wheat. PLoS ONE, 2011, 6, e19220.	2.5	118
72	Biodiversity in the dark. Nature Geoscience, 2010, 3, 297-298.	12.9	111

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73	Legacy effects of grassland management on soil carbon to depth. Global Change Biology, 2016, 22, 2929-2938.	9.5	106
74	Extensive Management Promotes Plant and Microbial Nitrogen Retention in Temperate Grassland. PLoS ONE, 2012, 7, e51201.	2.5	105
75	Root traits explain rhizosphere fungal community composition among temperate grassland plant species. New Phytologist, 2021, 229, 1492-1507.	7.3	102
76	Plant responses to soil heterogeneity and global environmental change. Journal of Ecology, 2012, 100, 1303-1314.	4.0	101
77	Vegetation exerts a greater control on litter decomposition than climate warming in peatlands. Ecology, 2015, 96, 113-123.	3.2	101
78	Biochar in bioenergy cropping systems: impacts on soil faunal communities and linked ecosystem processes. GCB Bioenergy, 2013, 5, 81-95.	5.6	92
79	Plant community controls on shortâ€term ecosystem nitrogen retention. New Phytologist, 2016, 210, 861-874.	7.3	92
80	Influence of microbial activity on plantâ€“microbial competition for organic and inorganic nitrogen. Plant and Soil, 2006, 289, 321-334.	3.7	89
81	The response of plant diversity to ecosystem retrogression: evidence from contrasting longâ€term chronosequences. Oikos, 2008, 117, 93-103.	2.7	88
82	Vascular plants promote ancient peatland carbon loss with climate warming. Global Change Biology, 2016, 22, 1880-1889.	9.5	87
83	Contrasting responses of above- and belowground diversity to multiple components of land-use intensity. Nature Communications, 2021, 12, 3918.	12.8	81
84	Oligopeptides Represent a Preferred Source of Organic N Uptake: A Global Phenomenon?. Ecosystems, 2013, 16, 133-145.	3.4	80
85	Simple measures of climate, soil properties and plant traits predict nationalâ€scale grassland soil carbon stocks. Journal of Applied Ecology, 2015, 52, 1188-1196.	4.0	79
86	Relationships between functional traits and inorganic nitrogen acquisition among eight contrasting European grass species. Annals of Botany, 2015, 115, 107-115.	2.9	78
87	Plant nitrogen-use strategy as a driver of rhizosphere archaeal and bacterial ammonia oxidiser abundance. FEMS Microbiology Ecology, 2016, 92, fiw091.	2.7	76
88	Temperature sensitivity of soil enzymes along an elevation gradient in the Peruvian Andes. Biogeochemistry, 2016, 127, 217-230.	3.5	75
89	Linkages between soil biota, nitrogen availability, and plant nitrogen uptake in a mountain ecosystem in the Scottish Highlands. Applied Soil Ecology, 2002, 19, 121-134.	4.3	70
90	Amongâ€and withinâ€species variation in plant litter decomposition in contrasting longâ€term chronosequences. Functional Ecology, 2009, 23, 442-453.	3.6	69

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91	High throughput method for measuring urease activity in soil. Soil Biology and Biochemistry, 2019, 134, 72-77.	8.8	67
92	Rapid peptide metabolism: A major component of soil nitrogen cycling?. Global Biogeochemical Cycles, 2011, 25, n/a-n/a.	4.9	64
93	Biodiversity and environmental context predict dung beetleâ€mediated seed dispersal in a tropical forest field experiment. Ecology, 2015, 96, 1607-1619.	3.2	60
94	Influence of soil microbiota in nurse plant systems. Functional Ecology, 2016, 30, 30-40.	3.6	59
95	Root architecture governs plasticity in response to drought. Plant and Soil, 2018, 433, 189-200.	3.7	59
96	Warming reduces the cover and diversity of biocrust-forming mosses and lichens, and increases the physiological stress of soil microbial communities in a semi-arid Pinus halepensis plantation. Frontiers in Microbiology, 2015, 6, 865.	3.5	58
97	Relationships between plant traits, soil properties and carbon fluxes differ between monocultures and mixed communities in temperate grassland. Journal of Ecology, 2019, 107, 1704-1719.	4.0	56
98	Climate change alters temporal dynamics of alpine soil microbial functioning and biogeochemical cycling via earlier snowmelt. ISME Journal, 2021, 15, 2264-2275.	9.8	51
99	Plant trait-based approaches for interrogating belowground function. Biology and Environment, 2017, 117B, 1.	0.3	48
100	The added value of including key microbial traits to determine nitrogenâ€related ecosystem services in managed grasslands. Journal of Applied Ecology, 2018, 55, 49-58.	4.0	47
101	The influence of soil age on ecosystem structure and function across biomes. Nature Communications, 2020, 11, 4721.	12.8	47
102	High ecosystem multifunctionality under moderate grazing is associated with high plant but low bacterial diversity in a semi-arid steppe grassland. Plant and Soil, 2020, 448, 265-276.	3.7	47
103	A global database of soil nematode abundance and functional group composition. Scientific Data, 2020, 7, 103.	5.3	46
104	Soil multifunctionality and drought resistance are determined by plant structural traits in restoring grassland. Ecology, 2018, 99, 2260-2271.	3.2	45
105	Effects of species evenness and dominant species identity on multiple ecosystem functions in model grassland communities. Oecologia, 2014, 174, 979-992.	2.0	44
106	Assessing the Importance of Intraspecific Variability in Dung Beetle Functional Traits. PLoS ONE, 2016, 11, e0145598.	2.5	43
107	Functional Traits 2.0: The power of the metabolome for ecology. Journal of Ecology, 2022, 110, 4-20.	4.0	42
108	Using plant, microbe, and soil fauna traits to improve the predictive power of biogeochemical models. Methods in Ecology and Evolution, 2019, 10, 146-157.	5.2	41

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109	Nitrogen addition alters composition, diversity, and functioning of microbial communities in mangrove soils: An incubation experiment. Soil Biology and Biochemistry, 2021, 153, 108076.	8.8	38
110	Drought decreases incorporation of recent plant photosynthate into soil food webs regardless of their trophic complexity. Global Change Biology, 2019, 25, 3549-3561.	9.5	37
111	Plant-soil interactions in a changing world. F1000 Biology Reports, 2011, 3, 16.	4.0	36
112	Grassland invasibility varies with drought effects on soil functioning. Journal of Ecology, 2016, 104, 1250-1258.	4.0	35
113	Disentangling plant and soil microbial controls on carbon and nitrogen loss in grassland mesocosms. Journal of Ecology, 2015, 103, 629-640.	4.0	34
114	Influence of plant traits, soil microbial properties, and abiotic parameters on nitrogen turnover of grassland ecosystems. Ecosphere, 2016, 7, e01448.	2.2	34
115	Microbial carbon mineralization in tropical lowland and montane forest soils of Peru. Frontiers in Microbiology, 2014, 5, 720.	3.5	31
116	Towards more predictive and interdisciplinary climate change ecosystem experiments. Nature Climate Change, 2019, 9, 809-816.	18.8	28
117	Plantâ€“soil interactions and the carbon cycle. Journal of Ecology, 2009, 97, 838-839.	4.0	26
118	Plant effects on soil N mineralization are mediated by the composition of multiple soil organic fractions. Ecological Research, 2011, 26, 201-208.	1.5	26
119	Grassland biodiversity restoration increases resistance of carbon fluxes to drought. Journal of Applied Ecology, 2019, 56, 1806-1816.	4.0	25
120	Drought soil legacy overrides maternal effects on plant growth. Functional Ecology, 2019, 33, 1400-1410.	3.6	25
121	Plastic and genetic responses of a common sedge to warming have contrasting effects on carbon cycle processes. Ecology Letters, 2019, 22, 159-169.	6.4	25
122	Contrasting environmental preferences of photosynthetic and nonâ€photosynthetic soil cyanobacteria across the globe. Global Ecology and Biogeography, 2020, 29, 2025-2038.	5.8	24
123	Plant ecological solutions to global food security. Journal of Ecology, 2017, 105, 859-864.	4.0	22
124	Forest fire induces shortâ€term shifts in soil food webs with consequences for carbon cycling. Ecology Letters, 2021, 24, 438-450.	6.4	22
125	Warming alters competition for organic and inorganic nitrogen between co-existing grassland plant species. Plant and Soil, 2016, 406, 117-129.	3.7	21
126	Fire Accelerates Assimilation and Transfer of Photosynthetic Carbon from Plants to Soil Microbes in a Northern Peatland. Ecosystems, 2012, 15, 1245-1257.	3.4	19

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127	Plant and soil responses to defoliation: a comparative study of grass species with contrasting life history strategies. Plant and Soil, 2011, 344, 377-388.	3.7	18
128	Challenging the paradigm of nitrogen cycling: no evidence of <i>in situ</i> resource partitioning by coexisting plant species in grasslands of contrasting fertility. Ecology and Evolution, 2015, 5, 275-287.	1.9	18
129	Isolating the effects of precipitation, soil conditions, and litter quality on leaf litter decomposition in lowland tropical forests. Plant and Soil, 2015, 394, 225-238.	3.7	17
130	Ecologically sustainable fertility management for the maintenance of speciesâ€rich hay meadows: a 12â€year fertilizer and lime experiment. Journal of Applied Ecology, 2014, 51, 152-161.	4.0	16
131	Reply to Byrnes et al.: Aggregation can obscure understanding of ecosystem multifunctionality. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E5491.	7.1	15
132	Towards a microbial process-based understanding of the resilience of peatland ecosystem service provisioning â€" A research agenda. Science of the Total Environment, 2021, 759, 143467.	8.0	15
133	Soil Methane Sink Capacity Response to a Long-Term Wildfire Chronosequence in Northern Sweden. PLoS ONE, 2015, 10, e0129892.	2.5	12
134	Shrub expansion modulates belowground impacts of changing snow conditions in alpine grasslands. Ecology Letters, 2022, 25, 52-64.	6.4	10
135	Glacier forelands reveal fundamental plant and microbial controls on shortâ€term ecosystem nitrogen retention. Journal of Ecology, 2021, 109, 3710-3723.	4.0	9
136	Tansleyâ€™s vision for <i>Journal of Ecology</i>, and a Centenary Celebration. Journal of Ecology, 2012, 100, 1-5.	4.0	8
137	Linking Abovegroundâ€"Belowground Ecology: A Short Historical Perspective. Ecological Studies, 2018, , 1-17.	1.2	8
138	Earth Matters. , 2016, , .		8
139	Guiding carbon farming using interdisciplinary mixed methods mapping. People and Nature, 2019, 1, 191-203.	3.7	7
140	Are researchers following best storage practices for measuring soil biochemical properties?. Soil, 2021, 7, 95-106.	4.9	7
141	Food Web Uncertainties Influence Predictions of Climate Change Effects on Soil Carbon Sequestration in Heathlands. Microbial Ecology, 2020, 79, 686-693.	2.8	6
142	Do soil depth and plant community composition interact to modify the resistance and resilience of grassland ecosystem functioning to drought?. Ecology and Evolution, 2021, 11, 11960-11973.	1.9	5
143	PREFERENCES FOR DIFFERENT NITROGEN FORMS BY COEXISTING PLANT SPECIES AND SOIL MICROBES: REPLY. Ecology, 2008, 89, 879-880.	3.2	4
144	<i>Journal of Ecology</i> News: Data Archiving Compliance. Journal of Ecology, 2016, 104, 1-3.	4.0	4

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145	Historical context modifies plant diversityâ€“community productivity relationships in alpine grassland. Journal of Ecology, 2022, 110, 2205-2218.	4.0	3
146	Variance, locality and structure: Three experimental challenges in the study of the response of soil microbial communities to multiple perturbations. Pedobiologia, 2021, 87-88, 150741.	1.2	2
147	<i>Journal of Ecology</i> News. Journal of Ecology, 2014, 102, 1-3.	4.0	1
148	<i>Journal of Ecology</i> News. Journal of Ecology, 2015, 103, 90-92.	4.0	1
149	Ecosystem Rates of Transformation Matterâ€”Response. Science, 2011, 333, 937-937.	12.6	0