James F Cahill

List of Publications by Year
in descending order

134 papers	6,476 citations	66343 42 h-index	74163 75 g-index
135 all docs	135 docs citations	135 times ranked	7487 citing authors

#	Article	IF	Citations
1	Phylogenetic patterns are not proxies of community assembly mechanisms (they are far better). Functional Ecology, 2015, 29, 600-614.	3.6	396
2	Worldwide evidence of a unimodal relationship between productivity and plant species richness. Science, 2015, 349, 302-305.	12.6	315
3	Does phylogenetic relatedness influence the strength of competition among vascular plants?. Perspectives in Plant Ecology, Evolution and Systematics, 2008, 10, 41-50.	2.7	278
4	Plants Integrate Information About Nutrients and Neighbors. Science, 2010, 328, 1657-1657.	12.6	266
5	Coordinated distributed experiments: an emerging tool for testing global hypotheses in ecology and environmental science. Frontiers in Ecology and the Environment, 2013, 11, 147-155.	4.0	237
6	Asymmetric responses of primary productivity to precipitation extremes: A synthesis of grassland precipitation manipulation experiments. Global Change Biology, 2017, 23, 4376-4385.	9.5	231
7	Plant Phenotypic Plasticity Belowground: A Phylogenetic Perspective on Root Foraging Tradeâ€Offs. American Naturalist, 2005, 166, 216-230.	2.1	205
8	FERTILIZATION EFFECTS ON INTERACTIONS BETWEEN ABOVE- AND BELOWGROUND COMPETITION IN AN OLD FIELD. Ecology, 1999, 80, 466-480.	3.2	185
9	The Behavioral Ecology of Nutrient Foraging by Plants. Annual Review of Ecology, Evolution, and Systematics, 2011, 42, 289-311.	8.3	185
10	Global change effects on plant communities are magnified by time and the number of global change factors imposed. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17867-17873.	7.1	141
11	The effects of livestock grazing on biodiversity are multiâ€trophic: a metaâ€analysis. Ecology Letters, 2020, 23, 1298-1309.	6.4	138
12	Temperature and pH define the realised niche space of arbuscular mycorrhizal fungi. New Phytologist, 2021, 231, 763-776.	7.3	126
13	Investigating the relationship between neighbor root biomass and belowground competition: field evidence for symmetric competition belowground. Oikos, 2000, 90, 311-320.	2.7	123
14	Improving the Scale and Precision of Hypotheses to Explain Root Foraging Ability. Annals of Botany, 2008, 101, 1295-1301.	2.9	111
15	Shoot, but not root, competition reduces community diversity in experimental mesocosms. Journal of Ecology, 2009, 97, 155-163.	4.0	104
16	Plant genetic diversity yields increased plant productivity and herbivore performance. Journal of Ecology, 2010, 98, 237-245.	4.0	101
17	Are competitive effect and response two sides of the same coin, or fundamentally different?. Functional Ecology, 2010, 24, 196-207.	3.6	101
18	Lack of relationship between below-ground competition and allocation to roots in 10 grassland species. Journal of Ecology, 2003, 91, 532-540.	4.0	99

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19	Independent Evolution of Leaf and Root Traits within and among Temperate Grassland Plant Communities. PLoS ONE, 2011, 6, e19992.	2.5	94
20	Interactions between root and shoot competition vary among species. Oikos, 2002, 99, 101-112.	2.7	93
21	Differential genetic influences on competitive effect and response in Arabidopsis thaliana. Journal of Ecology, 2005, 93, 958-967.	4.0	91
22	When Competition Does Not Matter: Grassland Diversity and Community Composition. American Naturalist, 2008, 171, 777-787.	2.1	91
23	Increased competition does not lead to increased phylogenetic overdispersion in a native grassland. Ecology Letters, 2013, 16, 1168-1176.	6.4	89
24	DISRUPTION OF A BELOWGROUND MUTUALISM ALTERS INTERACTIONS BETWEEN PLANTS AND THEIR FLORAL VISITORS. Ecology, 2008, 89, 1791-1801.	3.2	85
25	Focusing the metaphor: plant root foraging behaviour. Trends in Ecology and Evolution, 2009, 24, 419-426.	8.7	84
26	THE HERBIVORY UNCERTAINTY PRINCIPLE: VISITING PLANTS CAN ALTER HERBIVORY. Ecology, 2001, 82, 307-312.	3.2	77
27	Plant root growth and the marginal value theorem. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 4747-4751.	7.1	67
28	Neighbouring plants modify maize root foraging for phosphorus: coupling nutrients and neighbours for improved nutrientâ€use efficiency. New Phytologist, 2020, 226, 244-253.	7.3	66
29	Fungal effects on plantâ€“plant interactions contribute to grassland plant abundances: evidence from the field. Journal of Ecology, 2016, 104, 755-764.	4.0	65
30	Effects of insects on primary production in temperate herbaceous communities: a meta-analysis. Ecological Entomology, 2003, 28, 511-521.	2.2	60
31	Decline of ectomycorrhizal fungi following a mountain pine beetle epidemic. Ecology, 2014, 95, 1096-1103.	3.2	60
32	Water and nitrogen addition differentially impact plant competition in a native rough fescue grassland. Plant Ecology, 2007, 192, 21-33.	1.6	59
33	Aboveâ€ground competition does not alter biomass allocated to roots in Abutilon theophrasti. New Phytologist, 1998, 140, 231-238.	7.3	55
34	Regional boreal biodiversity peaks at intermediate human disturbance. Nature Communications, 2012, 3, 1142.	12.8	53
35	Disentangling root system responses to neighbours: identification of novel root behavioural strategies. AoB PLANTS, 2015, 7, plv059.	2.3	53
36	Antagonistic interactions between competition and insect herbivory on plant growth. Journal of Ecology, 2004, 92, 156-167.	4.0	51

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37	Ectomycorrhizal fungi mediate indirect effects of a bark beetle outbreak on secondary chemistry and establishment of pine seedlings. New Phytologist, 2015, 208, 904-914.	7.3	50
38	Changes in soil fungal community composition depend on functional group and forest disturbance type. New Phytologist, 2021, 229, 1105-1117.	7.3	50
39	Extending the stressâ€gradient hypothesis â€“ is competition among animals less common in harsh environments?. Oikos, 2013, 122, 516-523.	2.7	49
40	Growth Consequences of Soil Nutrient Heterogeneity for two Old-field Herbs,Ambrosia artemisiifoliaandPhytolacca americana, Grown Individually and in Combination. Annals of Botany, 1999, 83, 471-478.	2.9	48
41	Rapid Increases in Forest Understory Diversity and Productivity following a Mountain Pine Beetle (Dendroctonus ponderosae) Outbreak in Pine Forests. PLoS ONE, 2015, 10, e0124691.	2.5	48
42	No silver bullet: different soil handling techniques are useful for different research questions, exhibit differential type I and II error rates, and are sensitive to sampling intensity. New Phytologist, 2017, 216, 11-14.	7.3	48
43	Patterns of phylogenetic diversity are linked to invasion impacts, not invasion resistance, in a native grassland. Journal of Vegetation Science, 2014, 25, 1315-1326.	2.2	45
44	Change in soil fungal community structure driven by a decline in ectomycorrhizal fungi following a mountain pine beetle (Dendroctonus ponderosae) outbreak. New Phytologist, 2017, 213, 864-873.	7.3	45
45	What evidence is necessary in studies which separate root and shoot competition along productivity gradients?. Journal of Ecology, 2002, 90, 201-205.	4.0	43
46	Linkages of plant-soil feedbacks and underlying invasion mechanisms. AoB PLANTS, 2015, 7, plv022-plv022.	2.3	40
47	Direct and indirect drivers of plant diversity responses to climate and clipping across northern temperate grassland. Ecology, 2014, 95, 3093-3103.	3.2	39
48	Population-level responses to nutrient heterogeneity and density by Abutilon theophrasti (Malvaceae): an experimental neighborhood approach. American Journal of Botany, 1998, 85, 1680-1687.	1.7	38
49	Applying Behavioral-Ecological Theory to Plant Defense: Light-Dependent Movement in Mimosa pudica Suggests a Trade-Off between Predation Risk and Energetic Reward. American Naturalist, 2011, 177, 377-381.	2.1	38
50	Climate change experiments in temperate grasslands: synthesis and future directions. Biology Letters, 2012, 8, 484-487.	2.3	38
51	Limited effects of soil nutrient heterogeneity on populations of Abutilon theophrasti (Malvaceae). American Journal of Botany, 1996, 83, 333-341.	1.7	37
52	Patch-background contrast and patch density have limited effects on root proliferation and plant performance in Abutilon theophrasti. Functional Ecology, 2004, 18, 836-843.	3.6	37
53	Plant interactions are unimportant in a subarcticâ€“alpine plant community. Ecology, 2009, 90, 2360-2367.	3.2	37
54	Nutrient foraging behaviour of four coâ€occurring perennial grassland plant species alone does not predict behaviour with neighbours. Functional Ecology, 2016, 30, 420-430.	3.6	36

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55	Replication in field ecology: Identifying challenges and proposing solutions. Methods in Ecology and Evolution, 2021, 12, 1780-1792.	5.2	35
56	Contrasting impacts of defoliation on root colonization by arbuscular mycorrhizal and dark septate endophytic fungi of Medicago sativa. Mycorrhiza, 2014, 24, 239-245.	2.8	34
57	Biotic homogenization within and across eight widely distributed grasslands following invasion by Bromus inermis. Ecology, 2019, 100, e02717.	3.2	33
58	Consequences of differing competitive abilities between juvenile and adult plants. Oikos, 2006, 112, 502-512.	2.7	31
59	Conservatism of responses to environmental change is rare under natural conditions in a native grassland. Perspectives in Plant Ecology, Evolution and Systematics, 2013, 15, 328-337.	2.7	31
60	Influence of bark beetle outbreaks on nutrient cycling in native pine stands in western Canada. Plant and Soil, 2015, 390, 29-47.	3.7	31
61	Root Foraging Influences Plant Growth Responses to Earthworm Foraging. PLoS ONE, 2014, 9, e108873.	2.5	31
62	Separate effects of human visitation and touch on plant growth and herbivory in an oldâ€field community. American Journal of Botany, 2002, 89, 1401-1409.	1.7	29
63	Neighbourhood-scale diversity, composition and root crowding do not alter competition during drought in a native grassland. Ecology Letters, 2003, 6, 599-603.	6.4	28
64	Using structural equation modelling to test the passenger, driver and opportunist concepts in a Poa pratensis invasion. Oikos, 2013, 122, 377-384.	2.7	28
65	Prevalence and predictability of handling effects in field studies: results from field experiments and a metaâ€analysis. American Journal of Botany, 2003, 90, 270-277.	1.7	26
66	Shoot competition, root competition and reproductive allocation in <scp>C</scp>henopodium acuminatum. Journal of Ecology, 2014, 102, 1688-1696.	4.0	26
67	Effects of neighbour location and nutrient distributions on root foraging behaviour of the common sunflower. Proceedings of the Royal Society B: Biological Sciences, 2019, 286, 20190955.	2.6	26
68	Differential responses of native and exotic plant species to an invasive grass are driven by variation in biotic and abiotic factors. Journal of Vegetation Science, 2017, 28, 325-336.	2.2	25
69	Limited Effects of Soil Nutrient Heterogeneity on Populations of Abutilon theophrasti (Malvaceae). American Journal of Botany, 1996, 83, 333.	1.7	25
70	Canopy gaps are sites of reduced belowground plant competition in a productive old field. Plant Ecology, 2003, 164, 29-36.	1.6	24
71	Molecular identification of roots from a grassland community using size differences in fluorescently labelled PCR amplicons of three cpDNA regions. Molecular Ecology Resources, 2011, 11, 185-195.	4.8	23
72	Disentangling herbivore impacts on Populus tremuloides: a comparison of native ungulates and cattle in Canadaâ€™s Aspen Parkland. Oecologia, 2013, 173, 895-904.	2.0	23

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73	Implications of Precipitation, Warming, and Clipping for Grazing Resources in Canadian Prairies. Agronomy Journal, 2014, 106, 33-42.	1.8	23
74	Festuca campestris alters root morphology and growth in response to simulated grazing and nitrogen form. Functional Ecology, 2010, 24, 283-292.	3.6	22
75	Checkerboard scoreâ€“area relationships reveal spatial scales of plant community structure. Oikos, 2018, 127, 415-426.	2.7	21
76	A PCR-based method for the identification of the roots of 10 co-occurring grassland species in mesocosm experiments. Botany, 2008, 86, 485-490.	1.0	19
77	Limited effects of aboveâ€•and belowground insects on community structure and function in a speciesâ€•rich grassland. Journal of Vegetation Science, 2009, 20, 121-129.	2.2	18
78	Not a melting pot: Plant species aggregate in their nonâ€•native range. Global Ecology and Biogeography, 2020, 29, 482-490.	5.8	16
79	Grazing alters the sensitivity of plant productivity to precipitation in northern temperate grasslands. Journal of Vegetation Science, 2021, 32, e13008.	2.2	16
80	Root system size determines plant performance following short-term soil nutrient pulses. Plant Ecology, 2012, 213, 1803-1812.	1.6	15
81	Is biotic resistance to invaders dependent upon local environmental conditions or primary productivity? A meta-analysis. Basic and Applied Ecology, 2016, 17, 377-387.	2.7	15
82	Spatial pattern of invasion and the evolutionary responses of native plant species. Evolutionary Applications, 2016, 9, 939-951.	3.1	15
83	Comparative Pasture Management on Canadian Cattle Ranches With and Without Adaptive Multipaddock Grazing. Rangeland Ecology and Management, 2021, 78, 5-14.	2.3	15
84	Harnessing root-foraging capacity to improve nutrient-use efficiency for sustainable maize production. Field Crops Research, 2022, 279, 108462.	5.1	15
85	Light, Wind, and Touch Influence Leaf Chemistry and Rates of Herbivory in Apocynum cannabinum (Apocynaceae). International Journal of Plant Sciences, 2006, 167, 969-978.	1.3	14
86	Context dependence in foraging behaviour of Achillea millefolium. Oecologia, 2012, 170, 925-933.	2.0	14
87	The effects of ectomycorrhizal fungal networks on seedling establishment are contingent on species and severity of overstorey mortality. Mycorrhiza, 2020, 30, 173-183.	2.8	14
88	Soil biotic quality lacks spatial structure and is positively associated with fertility in a northern grassland. Journal of Ecology, 2018, 106, 195-206.	4.0	13
89	Speciesâ€•specific size vulnerabilities in a competitive arena: Nutrient heterogeneity and soil fertility alter plant competitive size asymmetries. Functional Ecology, 2019, 33, 1491-1503.	3.6	13
90	Interactions Between Root and Shoot Competition and Plant Traits. Hortscience: A Publication of the American Society for Hortcultural Science, 2007, 42, 1110-1112.	1.0	13

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91	Evaluating the Relationship between Competition and Productivity within a Native Grassland. PLoS ONE, 2012, 7, e43703.	2.5	12
92	Small-scale bee patch use is affected equally by flower availability and local habitat configuration. Basic and Applied Ecology, 2014, 15, 260-268.	2.7	12
93	A new method for the rapid characterization of root growth and distribution using digital image correlation. New Phytologist, 2018, 218, 835-846.	7.3	12
94	Root condensed tannins vary over time, but are unrelated to leaf tannins. AoB PLANTS, 2018, 10, ply044.	2.3	12
95	A NONLINEAR REGRESSION APPROACH TO TEST FOR SIZE-DEPENDENCE OF COMPETITIVE ABILITY. Ecology, 2006, 87, 1452-1457.	3.2	11
96	Introduction to the Special Issue: Beyond traits: integrating behaviour into plant ecology and biology. AoB PLANTS, 2015, 7, plv120.	2.3	11
97	Community-level determinants of smooth brome (Bromus inermis) growth and survival in the aspen parkland. Plant Ecology, 2016, 217, 1395-1413.	1.6	11
98	Limited evidence of vertical fineâ€root segregation in a subtropical forest. New Phytologist, 2021, 231, 2308-2318.	7.3	11
99	Multiâ€year drought alters plant species composition more than productivity across northern temperate grasslands. Journal of Ecology, 2022, 110, 197-209.	4.0	11
100	Soil Nitrogen and Greenhouse Gas Dynamics in a Temperate Grassland under Experimental Warming and Defoliation. Soil Science Society of America Journal, 2019, 83, 780-790.	2.2	10
101	Climate change and defoliation interact to affect root length across northern temperate grasslands. Functional Ecology, 2020, 34, 2611-2621.	3.6	10
102	Mechanical leaf damage causes localized, but not systemic, changes in leaf movement behavior of the Sensitive Plant, Mimosa pudica (Fabaceae) L.. Botany, 2013, 91, 43-47.	1.0	9
103	Limited impacts of extensive human land use on dominance, specialization, and biotic homogenization in boreal plant communities. BMC Ecology, 2015, 15, 5.	3.0	9
104	Competitive size asymmetry, not intensity, is linked to species loss and gain in a native grassland community. Ecology, 2022, 103, e3675.	3.2	9
105	Similarity between grassland vegetation and seed bank shifts with altered precipitation and clipping, but not warming. Community Ecology, 2012, 13, 129-136.	0.9	8
106	Vertical size structure is associated with productivity and species diversity in a shortâ€stature grassland: Evidence for the importance of height variability within herbaceous communities. Journal of Vegetation Science, 2019, 30, 789-798.	2.2	8
107	Interactive effects of insects and ungulates on root growth in a native grassland. Oikos, 2012, 121, 1585-1592.	2.7	7
108	A Molecular Identification Protocol for Roots of Boreal Forest Tree Species. Applications in Plant Sciences, 2014, 2, 1400069.	2.1	7

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109	Photosynthetic opportunity cost and energetic cost of a rapid leaf closure behavior in Mimosa pudica. American Journal of Botany, 2018, 105, 1491-1498.	1.7	7
110	Ecological implications of single and mixed nitrogen nutrition in Arabidopsis thaliana. BMC Ecology, 2013, 13, 28.	3.0	6
111	Changes in soil fungal communities following anthropogenic disturbance are linked to decreased lodgepole pine seedling performance. Journal of Applied Ecology, 2020, 57, 1292-1302.	4.0	6
112	Short-Term Plant Community Responses to Warming and Defoliation in a Northern Temperate Grassland. ISRN Ecology, 2011, 2011, 1-8.	1.0	6
113	Disturbance has lasting effects on functional traits and diversity of grassland plant communities. PeerJ, 2022, 10, e13179.	2.0	6
114	A global inventory of animal diversity measured in different grazing treatments. Scientific Data, 2022, 9, 209.	5.3	6
115	SPATIAL HETEROGENEITY, NOT VISITATION BIAS, DOMINATES VARIATION IN HERBIVORY: COMMENT. Ecology, 2004, 85, 2901-2906.	3.2	5
116	Response to Comment on â€œWorldwide evidence of a unimodal relationship between productivity and plant species richnessâ€• Science, 2016, 351, 457-457.	12.6	5
117	Maternal experience and soil origin influence interactions between resident species and a dominant invasive species. Oecologia, 2018, 186, 247-257.	2.0	5
118	Standing vegetation as a coarse biotic filter for seed bank dynamics: Effects of gap creation on seed inputs and outputs in a native grassland. Journal of Vegetation Science, 2020, 31, 1006-1016.	2.2	5
119	Damage to leaf veins suppresses root foraging precision. American Journal of Botany, 2019, 106, 1126-1130.	1.7	4
120	The multi-response of root foraging strategy to a neighbor, soil heterogeneity and earthworm. Applied Soil Ecology, 2020, 155, 103684.	4.3	4
121	Host Defense Metabolites Alter the Interactions between a Bark Beetle and its Symbiotic Fungi. Microbial Ecology, 2022, 84, 834-843.	2.8	4
122	Effect of aboveground litter on belowground plant interactions in a native Rough Fescue grassland. Basic and Applied Ecology, 2012, 13, 615-622.	2.7	3
123	Flowering and floral visitation predict changes in community structure provided that mycorrhizas remain intact. Ecology, 2018, 99, 1480-1489.	3.2	3
124	The inevitability of plant behavior. American Journal of Botany, 2019, 106, 903-905.	1.7	3
125	Interspecific differences in root foraging precision cannot be directly inferred from species' mycorrhizal status or fine root economics. Oikos, 2023, 2023, .	2.7	3
126	Soil transfers from intact to disturbed boreal forests neither alter ectomycorrhizal fungal communities nor improve pine seedling performance. Journal of Applied Ecology, 2022, 59, 2430-2439.	4.0	3

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127	Finding the â€œPitchâ€•in Ecological Writing. Bulletin of the Ecological Society of America, 2011, 92, 196-205.	0.2	2
128	Irrigation but not <scp>N</scp> fertilization enhances seedhead density in plains rough fescue (<scp>F</scp>estuca hallii). Grass and Forage Science, 2013, 68, 120-124.	2.9	2
129	Methods in belowground botany. Applications in Plant Sciences, 2019, 7, e01239.	2.1	2
130	Large-scale insect outbreak homogenizes the spatial structure of ectomycorrhizal fungal communities. PeerJ, 2019, 7, e6895.	2.0	2
131	In vitro measurements of the competitive interactions between two saprobic basidiomycetes on Typha latifolia. Canadian Journal of Botany, 2005, 83, 1523-1527.	1.1	1
132	An invasive grass and litter impact tree encroachment into a native grassland. Applied Vegetation Science, 2021, 24, e12618.	1.9	1
133	Limited impacts of adaptive multiâ€paddock grazing systems on plant diversity in the Northern Great Plains. Journal of Applied Ecology, 2022, 59, 1734-1744.	4.0	1
134	Presence of a dominant native shrub is associated with minor shifts in the function and composition of grassland communities in a northern savannah. AoB PLANTS, 2021, 13, plab011.	2.3	0