Christiane Roscher

List of Publications by Year
in descending order

148	12,658	25034	28297
papers	citations	57 h-index	105 g-index

155	155	155	12045
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Nutrient enrichment increases invertebrate herbivory and pathogen damage in grasslands. Journal of Ecology, 2022, 110, 327-339.	4.0	25
2	Abiotic factors are more important than land management and biotic interactions in shaping vascular plant and soil fungal communities. Global Ecology and Conservation, 2022, 33, e01960.	2.1	4
3	Nitrogen but not phosphorus addition affects symbiotic N2 fixation by legumes in natural and semi-natural grasslands located on four continents. Plant and Soil, 2022, 478, 689-707.	3.7	11
4	Plant diversity enhances production and downward transport of biodegradable dissolved organic matter. Journal of Ecology, 2021, 109, 1284-1297.	4.0	17
5	Incorporation of mineral nitrogen into the soil food web as affected by plant community composition. Ecology and Evolution, 2021, 11, 4295-4309.	1.9	2
6	Biodiversity facets affect community surface temperature via 3D canopy structure in grassland communities. Journal of Ecology, 2021, 109, 1969-1985.	4.0	11
7	Fertilized graminoids intensify negative drought effects on grassland productivity. Global Change Biology, 2021, 27, 2441-2457.	9.5	39
8	Plant history and soil history jointly influence the selection environment for plant species in a longâ€term grassland biodiversity experiment. Ecology and Evolution, 2021, 11, 8156-8169.	1.9	2
9	Plant diversity effects on plant longevity and their relationships to population stability in experimental grasslands. Journal of Ecology, 2021, 109, 2566-2579.	4.0	4
10	Effects of plant species diversity on nematode community composition and diversity in a long-term biodiversity experiment. Oecologia, 2021, 197, 297-311.	2.0	21
11	Plantâ€“Soil Feedbacks and Temporal Dynamics of Plant Diversityâ€“Productivity Relationships. Trends in Ecology and Evolution, 2021, 36, 651-661.	8.7	74
12	Phenotypic plasticity masks rangeâ€wide genetic differentiation for vegetative but not reproductive traits in a shortâ€lived plant. Ecology Letters, 2021, 24, 2378-2393.	6.4	21
13	Functional trait effects on ecosystem stability: assembling the jigsaw puzzle. Trends in Ecology and Evolution, 2021, 36, 822-836.	8.7	81
14	Soil properties as key predictors of global grassland production: Have we overlooked micronutrients?. Ecology Letters, 2021, 24, 2713-2725.	6.4	28
15	Limited evidence for spatial resource partitioning across temperate grassland biodiversity experiments. Ecology, 2020, 101, e02905.	3.2	40
16	Inferring competitive outcomes, ranks and intransitivity from empirical data: A comparison of different methods. Methods in Ecology and Evolution, 2020, 11, 117-128.	5.2	8
17	Predicting species abundances in a grassland biodiversity experiment: Tradeâ€offs between model complexity and generality. Journal of Ecology, 2020, 108, 774-787.	4.0	23
18	TRY plant trait database â€“ enhanced coverage and open access. Global Change Biology, 2020, 26, 119-188.	9.5	1,038

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19	Plant traits alone are poor predictors of ecosystem properties and long-term ecosystem functioning. Nature Ecology and Evolution, 2020, 4, 1602-1611.	7.8	114
20	General destabilizing effects of eutrophication on grassland productivity at multiple spatial scales. Nature Communications, 2020, 11, 5375.	12.8	75
21	The results of biodiversityâ€“ecosystem functioning experiments are realistic. Nature Ecology and Evolution, 2020, 4, 1485-1494.	7.8	93
22	Scaleâ€dependent impact of land management on aboveâ€•and belowground biodiversity. Ecology and Evolution, 2020, 10, 10139-10149.	1.9	1
23	Microbial processing of plant remains is coâ€limited by multiple nutrients in global grasslands. Global Change Biology, 2020, 26, 4572-4582.	9.5	27
24	Diverse plant mixtures sustain a greater arbuscular mycorrhizal fungi spore viability than monocultures after 12 years. Journal of Plant Ecology, 2020, 13, 478-488.	2.3	11
25	Nematode communities, plant nutrient economy and lifeâ€cycle characteristics jointly determine plant monoculture performance over 12 years. Oikos, 2020, 129, 466-479.	2.7	9
26	Plant species richness and functional groups have different effects on soil water content in a decadeâ€long grassland experiment. Journal of Ecology, 2019, 107, 127-141.	4.0	69
27	How to estimate complementarity and selection effects from an incomplete sample of species. Methods in Ecology and Evolution, 2019, 10, 2141-2152.	5.2	20
28	Linking local species coexistence to ecosystem functioning: a conceptual framework from ecological first principles in grassland ecosystems. Advances in Ecological Research, 2019, 61, 265-296.	2.7	3
29	Plant functional trait identity and diversity effects on soil meso- and macrofauna in an experimental grassland. Advances in Ecological Research, 2019, , 163-184.	2.7	4
30	A multitrophic perspective on biodiversityâ€“ecosystem functioning research. Advances in Ecological Research, 2019, 61, 1-54.	2.7	95
31	A new experimental approach to test why biodiversity effects strengthen as ecosystems age. Advances in Ecological Research, 2019, , 221-264.	2.7	21
32	Lost in trait space: species-poor communities are inflexible in properties that drive ecosystem functioning. Advances in Ecological Research, 2019, , 91-131.	2.7	14
33	Not even wrong: Comment by Wagg etÂal.. Ecology, 2019, 100, e02805.	3.2	8
34	Soil net nitrogen mineralisation across global grasslands. Nature Communications, 2019, 10, 4981.	12.8	57
35	Terrestrial laser scanning reveals temporal changes in biodiversity mechanisms driving grassland productivity. Advances in Ecological Research, 2019, 61, 133-161.	2.7	11
36	Increasing plant diversity of experimental grasslands alters the age and growth of Plantago lanceolata from younger and faster to older and slower. Oikos, 2019, 128, 1182-1193.	2.7	6

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37	Plant diversity alters the representation of motifs in food webs. Nature Communications, 2019, 10, 1226.	12.8	41
38	Interactions between functionally diverse fungal mutualists inconsistently affect plant performance and competition. Oikos, 2019, 128, 1136-1146.	2.7	10
39	Functional composition has stronger impact than species richness on carbon gain and allocation in experimental grasslands. PLoS ONE, 2019, 14, e0204715.	2.5	8
40	Multiple plant diversity components drive consumer communities across ecosystems. Nature Communications, 2019, 10, 1460.	12.8	139
41	The Future of Complementarity: Disentangling Causes from Consequences. Trends in Ecology and Evolution, 2019, 34, 167-180.	8.7	246
42	Leaf nutrients, not specific leaf area, are consistent indicators of elevated nutrient inputs. Nature Ecology and Evolution, 2019, 3, 400-406.	7.8	97
43	Origin context of trait data matters for predictions of community performance in a grassland biodiversity experiment. Ecology, 2018, 99, 1214-1226.	3.2	13
44	Belowâ€ground resource partitioning alone cannot explain the biodiversityâ€“ecosystem function relationship: A field test using multiple tracers. Journal of Ecology, 2018, 106, 2002-2018.	4.0	53
45	Interspecific competition alters leaf stoichiometry in 20 grassland species. Oikos, 2018, 127, 903-914.	2.7	33
46	Trait means, trait plasticity and trait differences to other species jointly explain species performances in grasslands of varying diversity. Oikos, 2018, 127, 865-865.	2.7	30
47	How do leaf trait values change spatially and temporally with light availability in a grassland diversity experiment?. Oikos, 2018, 127, 935-948.	2.7	20
48	Dynamic niche partitioning in root water uptake facilitates efficient water use in more diverse grassland plant communities. Functional Ecology, 2018, 32, 214-227.	3.6	51
49	Interspecific trait differences rather than intraspecific trait variation increase the extent and filling of community trait space with increasing plant diversity in experimental grasslands. Perspectives in Plant Ecology, Evolution and Systematics, 2018, 33, 42-50.	2.7	14
50	Functional groups differ in trait means, but not in trait plasticity to species richness in local grassland communities. Ecology, 2018, 99, 2295-2307.	3.2	14
51	Multiple facets of biodiversity drive the diversityâ€“stability relationship. Nature Ecology and Evolution, 2018, 2, 1579-1587.	7.8	296
52	Connecting experimental biodiversity research to real-world grasslands. Perspectives in Plant Ecology, Evolution and Systematics, 2018, 33, 78-88.	2.7	15
53	Growth ring analysis of multiple dicotyledonous herb speciesâ€”A novel community-wide approach. Basic and Applied Ecology, 2017, 21, 23-33.	2.7	11
54	Diversity-dependent temporal divergence of ecosystem functioning in experimental ecosystems. Nature Ecology and Evolution, 2017, 1, 1639-1642.	7.8	95

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55	Top canopy nitrogen allocation linked to increased grassland carbon uptake in stands of varying species richness. Scientific Reports, 2017, 7, 8392.	3.3	3
56	Consistent increase in herbivory along two experimental plant diversity gradients over multiple years. Ecosphere, 2017, 8, e01876.	2.2	26
57	Vascular plant diversity structures bryophyte colonization in experimental grassland. Journal of Vegetation Science, 2017, 28, 903-914.	2.2	7
58	Spatial plant resource acquisition traits explain plant community effects on soil microbial properties. Pedobiologia, 2017, 65, 50-57.	1.2	17
59	Biodiversity effects on ecosystem functioning in a 15-year grassland experiment: Patterns, mechanisms, and open questions. Basic and Applied Ecology, 2017, 23, 1-73.	2.7	307
60	Plants are less negatively affected by flooding when growing in speciesâ€rich plant communities. New Phytologist, 2017, 213, 645-656.	7.3	79
61	Intraspecific trait variation in three common grass species reveals fine-scale species adjustment to local environmental conditions. Journal of Plant Ecology, 2017, , .	2.3	1
62	Functional trait dissimilarity drives both species complementarity and competitive disparity. Functional Ecology, 2017, 31, 2320-2329.	3.6	48
63	Resource Availability Alters Biodiversity Effects in Experimental Grass-Forb Mixtures. PLoS ONE, 2016, 11, e0158110.	2.5	18
64	Plant functional diversity increases grassland productivityâ€related water vapor fluxes: an Ecotron and modeling approach. Ecology, 2016, 97, 2044-2054.	3.2	25
65	Mechanisms behind plant diversity effects on inorganic and organic N leaching from temperate grassland. Biogeochemistry, 2016, 131, 339-353.	3.5	25
66	Effects of biodiversity strengthen over time as ecosystem functioning declines at low and increases at high biodiversity. Ecosphere, 2016, 7, e01619.	2.2	87
67	Complementarity among four highly productive grassland species depends on resource availability. Oecologia, 2016, 181, 571-582.	2.0	39
68	Trait variation in response to resource availability and plant diversity modulates functional dissimilarity among species in experimental grasslands. Journal of Plant Ecology, 2016, , rtw110.	2.3	2
69	Plant diversity and functional groups affect Si and Ca pools in aboveground biomass of grassland systems. Oecologia, 2016, 182, 277-286.	2.0	32
70	Functional composition rather than species richness determines root characteristics of experimental grasslands grown at different light and nutrient availability. Plant and Soil, 2016, 404, 399-412.	3.7	14
71	Positive diversity effects on productivity in mixtures of arable weed species as related to densityâ€“size relationships. Journal of Plant Ecology, 2016, 9, 792-804.	2.3	14
72	Convergent high diversity in naturally colonized experimental grasslands is not related to increased productivity. Perspectives in Plant Ecology, Evolution and Systematics, 2016, 20, 32-45.	2.7	9

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73	Plant diversity generates enhanced soil microbial access to recently photosynthesized carbon in the rhizosphere. Soil Biology and Biochemistry, 2016, 94, 122-132.	8.8	69
74	Phenotypic plasticity to light and nutrient availability alters functional trait ranking across eight perennial grassland species. AoB PLANTS, 2015, 7, .	2.3	51
75	Plant diversity drives soil microbial biomass carbon in grasslands irrespective of global environmental change factors. Global Change Biology, 2015, 21, 4076-4085.	9.5	134
76	Light and Nutrient Dependent Responses in Secondary Metabolites of Plantago lanceolata Offspring Are Due to Phenotypic Plasticity in Experimental Grasslands. PLoS ONE, 2015, 10, e0136073.	2.5	29
77	Plasticity of functional traits of forb species in response to biodiversity. Perspectives in Plant Ecology, Evolution and Systematics, 2015, 17, 66-77.	2.7	58
78	Plant species diversity affects infiltration capacity in an experimental grassland through changes in soil properties. Plant and Soil, 2015, 397, 1-16.	3.7	105
79	Flooding disturbances increase resource availability and productivity but reduce stability in diverse plant communities. Nature Communications, 2015, 6, 6092.	12.8	116
80	Biodiversity increases the resistance of ecosystem productivity to climate extremes. Nature, 2015, 526, 574-577.	27.8	1,032
81	Plant diversity and community history shift colonization success from early- to mid-successional species. Journal of Plant Ecology, 2015, 8, 231-241.	2.3	15
82	No Evidence of Complementary Water Use along a Plant Species Richness Gradient in Temperate Experimental Grasslands. PLoS ONE, 2015, 10, e0116367.	2.5	54
83	Contrasting Effects of Intraspecific Trait Variation on Trait-Based Niches and Performance of Legumes in Plant Mixtures. PLoS ONE, 2015, 10, e0119786.	2.5	40
84	Biotic and Abiotic Properties Mediating Plant Diversity Effects on Soil Microbial Communities in an Experimental Grassland. PLoS ONE, 2014, 9, e96182.	2.5	188
85	Different Assembly Processes Drive Shifts in Species and Functional Composition in Experimental Grasslands Varying in Sown Diversity and Community History. PLoS ONE, 2014, 9, e101928.	2.5	21
86	A trait-based experimental approach to understand the mechanisms underlying biodiversityâ€“ecosystem functioning relationships. Basic and Applied Ecology, 2014, 15, 229-240.	2.7	91
87	Invertebrate herbivory increases along an experimental gradient of grassland plant diversity. Oecologia, 2014, 174, 183-193.	2.0	63
88	Functional diversity of leaf nitrogen concentrations drives grassland carbon fluxes. Ecology Letters, 2014, 17, 435-444.	6.4	94
89	Longâ€term study of root biomass in a biodiversity experiment reveals shifts in diversity effects over time. Oikos, 2014, 123, 1528-1536.	2.7	165
90	How Do Earthworms, Soil Texture and Plant Composition Affect Infiltration along an Experimental Plant Diversity Gradient in Grassland?. PLoS ONE, 2014, 9, e98987.	2.5	91

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91	Functionally and phylogenetically diverse plant communities key to soil biota. Ecology, 2013, 94, 1878-1885.	3.2	80
92	Experimental plant communities develop phylogenetically overdispersed abundance distributions during assembly. Ecology, 2013, 94, 465-477.	3.2	38
93	A comparison of the strength of biodiversity effects across multiple functions. Oecologia, 2013, 173, 223-237.	2.0	91
94	An improved model to predict the effects of changing biodiversity levels on ecosystem function. Journal of Ecology, 2013, 101, 344-355.	4.0	56
95	Predicting invertebrate herbivory from plant traits: Polycultures show strong nonadditive effects. Ecology, 2013, 94, 1499-1509.	3.2	39
96	What happens to the sown species if a biodiversity experiment is not weeded?. Basic and Applied Ecology, 2013, 14, 187-198.	2.7	25
97	Predicting ecosystem stability from community composition and biodiversity. Ecology Letters, 2013, 16, 617-625.	6.4	251
98	A functional trait-based approach to understand community assembly and diversityâ€“productivity relationships over 7 years in experimental grasslands. Perspectives in Plant Ecology, Evolution and Systematics, 2013, 15, 139-149.	2.7	63
99	Biodiversity Effects on Plant Stoichiometry. PLoS ONE, 2013, 8, e58179.	2.5	71
100	Changes in the Abundance of Grassland Species in Monocultures versus Mixtures and Their Relation to Biodiversity Effects. PLoS ONE, 2013, 8, e75599.	2.5	29
101	Using Plant Functional Traits to Explain Diversityâ€“Productivity Relationships. PLoS ONE, 2012, 7, e36760.	2.5	263
102	Predicting invertebrate herbivory from plant traits: evidence from 51 grassland species in experimental monocultures. Ecology, 2012, 93, 2674-2682.	3.2	80
103	Nitrogen uptake by grassland communities: contribution of N2 fixation, facilitation, complementarity, and species dominance. Plant and Soil, 2012, 358, 301-322.	3.7	59
104	Density-Independent Mortality and Increasing Plant Diversity Are Associated with Differentiation of Taraxacum officinale into r- and K-Strategists. PLoS ONE, 2012, 7, e28121.	2.5	13
105	Plant diversity effects on aboveground and belowground N pools in temperate grassland ecosystems: Development in the first 5 years after establishment. Global Biogeochemical Cycles, 2011, 25, n/a-n/a.	4.9	90
106	Phylogenetically diverse grasslands are associated with pairwise interspecific processes that increase biomass. Ecology, 2011, 92, 1385-1392.	3.2	43
107	Does plant diversity influence phosphorus cycling in experimental grasslands?. Geoderma, 2011, 167-168, 178-187.	5.1	50
108	Plant resource-use characteristics as predictors for species contribution to community biomass in experimental grasslands. Perspectives in Plant Ecology, Evolution and Systematics, 2011, 13, 1-13.	2.7	30

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109	Light and nitrogen competition limitLolium perennein experimental grasslands of increasing plant diversity. Plant Biology, 2011, 13, 134-144.	3.8	31
110	Foliar and soil Î´¹⁵N values reveal increased nitrogen partitioning among species in diverse grassland communities. Plant, Cell and Environment, 2011, 34, 895-908.	5.7	59
111	Identifying populationâ€•and communityâ€level mechanisms of diversityâ€“stability relationships in experimental grasslands. Journal of Ecology, 2011, 99, 1460-1469.	4.0	105
112	Selection for monoculture and mixture genotypes in a biodiversity experiment. Basic and Applied Ecology, 2011, 12, 360-371.	2.7	35
113	N2 fixation and performance of 12 legume species in a 6-year grassland biodiversity experiment. Plant and Soil, 2011, 341, 333-348.	3.7	51
114	Legume species differ in the responses of their functional traits to plant diversity. Oecologia, 2011, 165, 437-452.	2.0	54
115	Adjustment to the light environment in small-statured forbs as a strategy for complementary resource use in mixtures of grassland species. Annals of Botany, 2011, 107, 965-979.	2.9	23
116	Differential effects of plant diversity on functional trait variation of grass species. Annals of Botany, 2011, 107, 157-169.	2.9	80
117	More diverse plant communities have higher functioning over time due to turnover in complementary dominant species. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 17034-17039.	7.1	227
118	Plant Diversity Surpasses Plant Functional Groups and Plant Productivity as Driver of Soil Biota in the Long Term. PLoS ONE, 2011, 6, e16055.	2.5	172
119	Plant Community Diversity Influences Allocation to Direct Chemical Defence in Plantago lanceolata. PLoS ONE, 2011, 6, e28055.	2.5	49
120	Biology, chance, or history? The predictable reassembly of temperate grassland communities. Ecology, 2010, 91, 408-421.	3.2	72
121	Bottom-up effects of plant diversity on multitrophic interactions in a biodiversity experiment. Nature, 2010, 468, 553-556.	27.8	786
122	Diversity Promotes Temporal Stability across Levels of Ecosystem Organization in Experimental Grasslands. PLoS ONE, 2010, 5, e13382.	2.5	95
123	The Jena Experiment: six years of data from a grassland biodiversity experiment. Ecology, 2010, 91, 930-931.	3.2	94
124	Metabolomics Unravel Contrasting Effects of Biodiversity on the Performance of Individual Plant Species. PLoS ONE, 2010, 5, e12569.	2.5	114
125	Resources, recruitment limitation and invader species identity determine pattern of spontaneous invasion in experimental grasslands. Journal of Ecology, 2009, 97, 32-47.	4.0	56
126	Positive biodiversityâ€“productivity relationship due to increased plant density. Journal of Ecology, 2009, 97, 696-704.	4.0	141

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127	Nonâ€random recruitment of invader species in experimental grasslands. Oikos, 2009, 118, 1524-1540.	2.7	20
128	Differential effects of functional traits on aboveground biomass in semiâ€natural grasslands. Oikos, 2009, 118, 1659-1668.	2.7	89
129	Community assembly and biomass production in regularly and never weeded experimental grasslands. Acta Oecologica, 2009, 35, 206-217.	1.1	39
130	Plant species richness and functional composition drive overyielding in a sixâ€year grassland experiment. Ecology, 2009, 90, 3290-3302.	3.2	317
131	Aboveground overyielding in grassland mixtures is associated with reduced biomass partitioning to belowground organs. Ecology, 2009, 90, 1520-1530.	3.2	117
132	Adaptive survival mechanisms and growth limitations of smallâ€stature herb species across a plant diversity gradient. Plant Biology, 2008, 10, 573-587.	3.8	29
133	Does biodiversity increase spatial stability in plant community biomass?. Ecology Letters, 2008, 11, 338-347.	6.4	120
134	Plant diversity positively affects shortâ€term soil carbon storage in experimental grasslands. Global Change Biology, 2008, 14, 2937-2949.	9.5	260
135	Complementary nitrogen use among potentially dominant species in a biodiversity experiment varies between two years. Journal of Ecology, 2008, 96, 477-488.	4.0	89
136	Effects of trait plasticity on aboveground biomass production depend on species identity in experimental grasslands. Basic and Applied Ecology, 2008, 9, 475-484.	2.7	27
137	Species richness and identity affect the use of aboveground space in experimental grasslands. Perspectives in Plant Ecology, Evolution and Systematics, 2008, 10, 73-87.	2.7	73
138	Genetic Identity Affects Performance of Species in Grasslands of Different Plant Diversity: An Experiment with Lolium perenne Cultivars. Annals of Botany, 2008, 102, 113-125.	2.9	23
139	Soil and Plant Nitrogen Pools as Related to Plant Diversity in an Experimental Grassland. Soil Science Society of America Journal, 2007, 71, 720-729.	2.2	114
140	Nitrogen and Phosphorus Budgets in Experimental Grasslands of Variable Diversity. Journal of Environmental Quality, 2007, 36, 396-407.	2.0	58
141	Niche pre-emption increases with species richness in experimental plant communities. Journal of Ecology, 2007, 95, 65-78.	4.0	169
142	Establishment of grassland species in monocultures: different strategies lead to success. Oecologia, 2007, 152, 435-447.	2.0	50
143	Resistance to rust fungi in Lolium perenne depends on within-species variation and performance of the host species in grasslands of different plant diversity. Oecologia, 2007, 153, 173-183.	2.0	45
144	Detecting the role of individual species for overyielding in experimental grassland communities composed of potentially dominant species. Oecologia, 2007, 154, 535-549.	2.0	72

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145	Effects of plant diversity on invertebrate herbivory in experimental grassland. Oecologia, 2006, 147, 489-500.	2.0	92
146	Overyielding in experimental grassland communities - irrespective of species pool or spatial scale. Ecology Letters, 2005, 8, 419-429.	6.4	259
147	The role of biodiversity for element cycling and trophic interactions: an experimental approach in a grassland community. Basic and Applied Ecology, 2004, 5, 107-121.	2.7	508
148	Biotic interactions, community assembly, and eco-evolutionary dynamics as drivers of long-term biodiversityâ€“ecosystem functioning relationships. Research Ideas and Outcomes, 0, 5, .	1.0	23