Xiao-tao Lu

List of Publications by Year
in descending order

137 papers	4,823 citations	81839 39 h-index	128225 60 g-index
147 all docs	147 docs citations	147 times ranked	4345 citing authors

#	Article	IF	Citations
1	Aridity threshold in controlling ecosystem nitrogen cycling in arid and semi-arid grasslands. Nature Communications, 2014, 5, 4799.	5.8	254
2	Nitrogen deposition weakens plantâ€“microbe interactions in grassland ecosystems. Global Change Biology, 2013, 19, 3688-3697.	4.2	221
3	Habitat-specific patterns and drivers of bacterial Î²-diversity in Chinaâ€™s drylands. ISME Journal, 2017, 11, 1345-1358.	4.4	218
4	Convergent responses of nitrogen and phosphorus resorption to nitrogen inputs in a semiarid grassland. Global Change Biology, 2013, 19, 2775-2784.	4.2	171
5	Nitrogen enrichment weakens ecosystem stability through decreased species asynchrony and population stability in a temperate grassland. Global Change Biology, 2016, 22, 1445-1455.	4.2	139
6	Rapid plant species loss at high rates and at low frequency of N addition in temperate steppe. Global Change Biology, 2014, 20, 3520-3529.	4.2	132
7	Nitrogen and water availability interact to affect leaf stoichiometry in a semi-arid grassland. Oecologia, 2012, 168, 301-310.	0.9	109
8	Nutrient resorption responses to water and nitrogen amendment in semi-arid grassland of Inner Mongolia, China. Plant and Soil, 2010, 327, 481-491.	1.8	104
9	Plasticity in leaf and stem nutrient resorption proficiency potentially reinforces plantâ€“soil feedbacks and microscale heterogeneity in a semiâ€arid grassland. Journal of Ecology, 2012, 100, 144-150.	1.9	94
10	Scale-dependent effects of climate and geographic distance on bacterial diversity patterns across northern China's grasslands. FEMS Microbiology Ecology, 2015, 91, fiv133.	1.3	87
11	Methane emissions from the trunks of living trees on upland soils. New Phytologist, 2016, 211, 429-439.	3.5	78
12	Changes in litter quality induced by N deposition alter soil microbial communities. Soil Biology and Biochemistry, 2019, 130, 33-42.	4.2	77
13	Nitrogen Addition Regulates Soil Nematode Community Composition through Ammonium Suppression. PLoS ONE, 2012, 7, e43384.	1.1	77
14	Soil moisture and land use are major determinants of soil microbial community composition and biomass at a regional scale in northeastern China. Biogeosciences, 2015, 12, 2585-2596.	1.3	71
15	Plant nitrogen uptake drives responses of productivity to nitrogen and water addition in a grassland. Scientific Reports, 2014, 4, 4817.	1.6	71
16	Phosphorus transformations along a largeâ€scale climosequence in arid and semiarid grasslands of northern China. Global Biogeochemical Cycles, 2016, 30, 1264-1275.	1.9	65
17	Plant nutrients do not covary with soil nutrients under changing climatic conditions. Global Biogeochemical Cycles, 2015, 29, 1298-1308.	1.9	62
18	Hierarchical responses of plant stoichiometry to nitrogen deposition and mowing in a temperate steppe. Plant and Soil, 2014, 382, 175-187.	1.8	61

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19	Mowing mitigates the negative impacts of N addition on plant species diversity. Oecologia, 2019, 189, 769-779.	0.9	60
20	The Effects of Warming and Nitrogen Addition on Soil Nitrogen Cycling in a Temperate Grassland, Northeastern China. PLoS ONE, 2011, 6, e27645.	1.1	59
21	Effects of long-term nitrogen deposition on fine root decomposition and its extracellular enzyme activities in temperate forests. Soil Biology and Biochemistry, 2016, 93, 50-59.	4.2	59
22	Nitrogen fertilization and fire act independently on foliar stoichiometry in a temperate steppe. Plant and Soil, 2010, 334, 209-219.	1.8	55
23	Foliar nutrient resorption differs between arbuscular mycorrhizal and ectomycorrhizal trees at local and global scales. Global Ecology and Biogeography, 2018, 27, 875-885.	2.7	55
24	Carbon limitation overrides acidification in mediating soil microbial activity to nitrogen enrichment in a temperate grassland. Global Change Biology, 2021, 27, 5976-5988.	4.2	55
25	Testing the Growth Rate Hypothesis in Vascular Plants with Above- and Below-Ground Biomass. PLoS ONE, 2012, 7, e32162.	1.1	55
26	Increasing rates of longâ€term nitrogen deposition consistently increased litter decomposition in a semiâ€arid grassland. New Phytologist, 2021, 229, 296-307.	3.5	54
27	Changes in specific leaf area of dominant plants in temperate grasslands along a 2500-km transect in northern China. Scientific Reports, 2017, 7, 10780.	1.6	53
28	Salt tolerance during seed germination and early seedling stages of 12 halophytes. Plant and Soil, 2015, 388, 229-241.	1.8	50
29	Nutrient resorption helps drive intra-specific coupling of foliar nitrogen and phosphorus under nutrient-enriched conditions. Plant and Soil, 2016, 398, 111-120.	1.8	50
30	Contrasting responses in leaf nutrient-use strategies of two dominant grass species along a 30-yr temperate steppe grazing exclusion chronosequence. Plant and Soil, 2015, 387, 69-79.	1.8	49
31	Changes in nitrogen and phosphorus cycling suggest a transition to phosphorus limitation with the stand development of larch plantations. Plant and Soil, 2018, 422, 385-396.	1.8	49
32	Effects of nitrogen deposition rates and frequencies on the abundance of soil nitrogen-related functional genes in temperate grassland of northern China. Journal of Soils and Sediments, 2015, 15, 694-704.	1.5	48
33	Productivity depends more on the rate than the frequency of N addition in a temperate grassland. Scientific Reports, 2015, 5, 12558.	1.6	47
34	Ecosystem carbon storage and partitioning in a tropical seasonal forest in Southwestern China. Forest Ecology and Management, 2010, 260, 1798-1803.	1.4	46
35	Patterns of Plant Biomass Allocation in Temperate Grasslands across a 2500-km Transect in Northern China. PLoS ONE, 2013, 8, e71749.	1.1	46
36	Labile substrate availability controls temperature sensitivity of organic carbon decomposition at different soil depths. Biogeochemistry, 2015, 126, 85-98.	1.7	45

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37	Leaf nutrient dynamics and nutrient resorption: a comparison between larch plantations and adjacent secondary forests in Northeast China. Journal of Plant Ecology, 2016, 9, 165-173.	1.2	45
38	Decreased plant productivity resulting from plant group removal experiment constrains soil microbial functional diversity. Global Change Biology, 2017, 23, 4318-4332.	4.2	45
39	Coupling and Decoupling of Soil Carbon and Nutrient Cycles Across an Aridity Gradient in the Drylands of Northern China: Evidence From Ecoenzymatic Stoichiometry. Global Biogeochemical Cycles, 2019, 33, 559-569.	1.9	44
40	Nitrogen deposition promotes phosphorus uptake of plants in a semi-arid temperate grassland. Plant and Soil, 2016, 408, 475-484.	1.8	41
41	Carbon and nitrogen allocation shifts in plants and soils along aridity and fertility gradients in grasslands of China. Ecology and Evolution, 2017, 7, 6927-6934.	0.8	41
42	Nutrient resorption response to fire and nitrogen addition in a semi-arid grassland. Ecological Engineering, 2011, 37, 534-538.	1.6	39
43	Increased precipitation induces a positive plant-soil feedback in a semi-arid grassland. Plant and Soil, 2015, 389, 211-223.	1.8	39
44	The effect of grazing management on plant species richness on the Qinghaiâ€Tibetan Plateau. Grass and Forage Science, 2011, 66, 333-336.	1.2	37
45	Responses of litter decomposition and nutrient release rate to water and nitrogen addition differed among three plant species dominated in a semi-arid grassland. Plant and Soil, 2017, 418, 241-253.	1.8	37
46	Changes in soil C:N:P stoichiometry along an aridity gradient in drylands of northern China. Geoderma, 2020, 361, 114087.	2.3	37
47	Homeâ€field advantages of litter decomposition increase with increasing N deposition rates: a litter and soil perspective. Functional Ecology, 2017, 31, 1792-1801.	1.7	36
48	Nitrogen enrichment buffers phosphorus limitation by mobilizing mineralâ€bound soil phosphorus in grasslands. Ecology, 2022, 103, e3616.	1.5	35
49	Experimentally increased water and nitrogen affect root production and vertical allocation of an old-field grassland. Plant and Soil, 2017, 412, 369-380.	1.8	32
50	Differences in below-ground bud bank density and composition along a climatic gradient in the temperate steppe of northern China. Annals of Botany, 2017, 120, 755-764.	1.4	31
51	Decoupled responses of aboveâ€and belowâ€ground stability of productivity to nitrogen addition at the local and larger spatial scale. Global Change Biology, 2022, 28, 2711-2720.	4.2	31
52	Carbon and nitrogen storage in plant and soil as related to nitrogen and water amendment in a temperate steppe of northern China. Biology and Fertility of Soils, 2011, 47, 187-196.	2.3	30
53	Stoichiometric response of dominant grasses to fire and mowing in a semi-arid grassland. Journal of Arid Environments, 2012, 78, 154-160.	1.2	30
54	Influence of Forest Management Regimes on Forest Dynamics in the Upstream Region of the Hun River in Northeastern China. PLoS ONE, 2012, 7, e39058.	1.1	30

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55	Does high pH give a reliable assessment of the effect of alkaline soil on seed germination? A case study with Leymus chinensis (Poaceae). Plant and Soil, 2015, 394, 35-43.	1.8	30
56	Thresholds in decoupled soil-plant elements under changing climatic conditions. Plant and Soil, 2016, 409, 159-173.	1.8	30
57	Testing nitrogen and water co-limitation of primary productivity in a temperate steppe. Plant and Soil, 2018, 432, 119-127.	1.8	30
58	Species richness mediates withinâ€species nutrient resorption: Implications for the biodiversityâ€“productivity relationship. Journal of Ecology, 2019, 107, 2346-2352.	1.9	30
59	Carbon and nitrogen contents in particleâ€“size fractions of topsoil along a 3000â€¯km aridity gradient in grasslands of northern China. Biogeosciences, 2016, 13, 3635-3646.	1.3	29
60	A threshold reveals decoupled relationship of sulfur with carbon and nitrogen in soils across arid and semi-arid grasslands in northern China. Biogeochemistry, 2016, 127, 141-153.	1.7	29
61	Largeâ€Scale Distribution of Molecular Components in Chinese Grassland Soils: The Influence of Input and Decomposition Processes. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 239-255.	1.3	29
62	Recovery time of soil carbon pools of conversional Chinese fir plantations from broadleaved forests in subtropical regions, China. Science of the Total Environment, 2017, 587-588, 296-304.	3.9	27
63	Sand burial compensates for the negative effects of erosion on the dune-building shrub Artemisia wudanica. Plant and Soil, 2014, 374, 263-273.	1.8	26
64	Intraspecific variation drives community-level stoichiometric responses to nitrogen and water enrichment in a temperate steppe. Plant and Soil, 2018, 423, 307-315.	1.8	26
65	Fewer new species colonize at low frequency N addition in a temperate grassland. Functional Ecology, 2016, 30, 1247-1256.	1.7	25
66	Variations in leaf carbon isotope composition along an arid and semi-arid grassland transect in northern China. Journal of Plant Ecology, 2016, 9, 576-585.	1.2	25
67	Coexistence of multiple leaf nutrient resorption strategies in a single ecosystem. Science of the Total Environment, 2021, 772, 144951.	3.9	25
68	Changes of plant N:P stoichiometry across a 3000-km aridity transect in grasslands of northern China. Plant and Soil, 2019, 443, 107-119.	1.8	24
69	Facilitation by leguminous shrubs increases along a precipitation gradient. Functional Ecology, 2018, 32, 203-213.	1.7	21
70	Divergent composition and turnover of soil organic nitrogen along a climate gradient in arid and semiarid grasslands. Geoderma, 2018, 327, 36-44.	2.3	20
71	The impacts of nitrogen deposition on community N:P stoichiometry do not depend on phosphorus availability in a temperate meadow steppe. Environmental Pollution, 2018, 242, 82-89.	3.7	20
72	Carbon Stocks across a Fifty Year Chronosequence of Rubber Plantations in Tropical China. Forests, 2017, 8, 209.	0.9	19

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73	The relative contributions of intra- and inter-specific variation in driving community stoichiometric responses to nitrogen deposition and mowing in a grassland. Science of the Total Environment, 2019, 666, 887-893.	3.9	19
74	Nitrogen Enrichment Reduces Nitrogen and Phosphorus Resorption Through Changes to Species Resorption and Plant Community Composition. Ecosystems, 2021, 24, 602-612.	1.6	19
75	Global resorption efficiencies of trace elements in leaves of terrestrial plants. Functional Ecology, 2021, 35, 1596-1602.	1.7	19
76	Plant functional group removal alters root biomass and nutrient cycling in a typical steppe in Inner Mongolia, China. Plant and Soil, 2011, 346, 133-144.	1.8	18
77	Opposite effects of nitrogen fertilization and plastic film mulching on crop N and P stoichiometry in a temperate agroecosystem. Journal of Plant Ecology, 2019, 12, 682-692.	1.2	18
78	Distribution of lignin phenols in comparison with plant-derived lipids in the alpine versus temperate grassland soils. Plant and Soil, 2019, 439, 325-338.	1.8	18
79	Responses of nutrient concentrations and stoichiometry of senesced leaves in dominant plants to nitrogen addition and prescribed burning in a temperate steppe. Ecological Engineering, 2014, 70, 154-161.	1.6	17
80	Higher capability of C3 than C4 plants to use nitrogen inferred from nitrogen stable isotopes along an aridity gradient. Plant and Soil, 2018, 428, 93-103.	1.8	17
81	Effects of nitrogen addition on plant-soil micronutrients vary with nitrogen form and mowing management in a meadow steppe. Environmental Pollution, 2021, 289, 117969.	3.7	17
82	Extreme rainfall events can alter inter-annual biomass responses to water and N enrichment. Biogeosciences, 2013, 10, 8129-8138.	1.3	16
83	Effects of Exclosure Management on Elm (Ulmus Pumila) Recruitment in Horqin Sandy Land, Northeastern China. Arid Land Research and Management, 2014, 28, 109-117.	0.6	16
84	Impacts of leguminous shrub encroachment on neighboring grasses include transfer of fixed nitrogen. Oecologia, 2016, 180, 1213-1222.	0.9	16
85	Plantâ€“bacteriaâ€“soil response to frequency of simulated nitrogen deposition has implications for global ecosystem change. Functional Ecology, 2020, 34, 723-734.	1.7	16
86	Long-term mowing did not alter the impacts of nitrogen deposition on litter quality in a temperate steppe. Ecological Engineering, 2017, 102, 404-410.	1.6	15
87	Effects of water and nitrogen addition on ecosystem respiration across three types of steppe: The role of plant and microbial biomass. Science of the Total Environment, 2018, 619-620, 103-111.	3.9	15
88	Quantifying the indirect effects of nitrogen deposition on grassland litter chemical traits. Biogeochemistry, 2018, 139, 261-273.	1.7	15
89	Vertical variations in plant- and microbial-derived carbon components in grassland soils. Plant and Soil, 2020, 446, 441-455.	1.8	15
90	Aridity thresholds of soil microbial metabolic indices along a 3,200 km transect across arid and semi-arid regions in Northern China. PeerJ, 2019, 7, e6712.	0.9	15

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91	Coarse woody decay rates vary by physical position in tropical seasonal rainforests of SW China. Forest Ecology and Management, 2017, 385, 206-213.	1.4	14
92	Distribution and Preservation of Rootâ€•and Shootâ€Derived Carbon Components in Soils Across the Chineseâ€Mongolian Grasslands. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 420-431.	1.3	14
93	The retention dynamics of N input within the soilâ€“microbeâ€“plant system in a temperate grassland. Geoderma, 2020, 368, 114290.	2.3	14
94	Simulated nitrogen deposition decreases soil microbial diversity in a semiarid grassland, with little mediation of this effect by mowing. Pedobiologia, 2020, 80, 150644.	0.5	14
95	Effects of artificial nitrogen addition and reduction in precipitation on soil CO 2 and CH 4 effluxes and composition of the microbial biomass in a temperate forest. European Journal of Soil Science, 2019, 70, 1197.	1.8	13
96	Environmental filtering rather than phylogeny determines plant leaf size in three floristically distinctive plateaus. Ecological Indicators, 2021, 130, 108049.	2.6	13
97	N limitation increases along a temperate forest succession: evidences from leaf stoichiometry and nutrient resorption. Journal of Plant Ecology, 2022, 15, 1021-1035.	1.2	13
98	Structure and composition of the understory treelets in a non-dipterocarp forest of tropical Asia. Forest Ecology and Management, 2010, 260, 565-572.	1.4	12
99	Effects of the frequency and the rate of N enrichment on community structure in a temperate grassland. Journal of Plant Ecology, 2018, 11, 685-695.	1.2	12
100	Divergent responses to water and nitrogen addition of three perennial bunchgrass species from variously degraded typical steppe in Inner Mongolia. Science of the Total Environment, 2019, 647, 1344-1350.	3.9	12
101	Nitrogen effects on grassland biomass production and biodiversity are stronger than those of phosphorus. Environmental Pollution, 2022, 309, 119720.	3.7	12
102	Structural and chemical differences between shoot- and root-derived roots of three perennial grasses in a typical steppe in Inner Mongolia China. Plant and Soil, 2010, 336, 209-217.	1.8	11
103	The impacts of nutrient addition and livestock exclosure on the soil nematode community in a degraded grassland. Land Degradation and Development, 2019, 30, 1574-1583.	1.8	11
104	Environmental and spatial variables determine the taxonomic but not functional structure patterns of microbial communities in alpine grasslands. Science of the Total Environment, 2019, 654, 960-968.	3.9	11
105	Scaling responses of leaf nutrient stoichiometry to the lakeshore flooding duration gradient across different organizational levels. Science of the Total Environment, 2020, 740, 139740.	3.9	11
106	Increases in substrate availability and decreases in soil pH drive the positive effects of nitrogen addition on soil net nitrogen mineralization in a temperate meadow steppe. Pedobiologia, 2021, 89, 150756.	0.5	11
107	Response of carbon dioxide emissions to sheep grazing and N application in an alpine grassland â€“ Part 1: Effect of sheep grazing. Biogeosciences, 2014, 11, 1743-1750.	1.3	10
108	Legacy effects of nitrogen deposition on plant nutrient stoichiometry in a temperate grassland. Plant and Soil, 2020, 446, 503-513.	1.8	10

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109	Spatial patterns and ecological drivers of soil nematode Î²â€diversity in natural grasslands vary among vegetation types and trophic position. Journal of Animal Ecology, 2021, 90, 1367-1378.	1.3	9
110	Diversity and aboveground biomass of lianas in the tropical seasonal rain forests of Xishuangbanna, SW China. Revista De Biologia Tropical, 2009, 57, 211-22.	0.1	9
111	Temporal variability of foliar nutrients: responses to nitrogen deposition and prescribed fire in a temperate steppe. Biogeochemistry, 2017, 133, 295-305.	1.7	8
112	Consistent responses of litter stoichiometry to N addition across different biological organization levels in a semi-arid grassland. Plant and Soil, 2017, 421, 191-202.	1.8	8
113	Interactive effects of soil nitrogen and water availability on leaf mass loss in a temperate steppe. Plant and Soil, 2010, 331, 497-504.	1.8	7
114	Regenerative Role of Soil Seed Banks of Different Successional Stages in A Saline-alkaline Grassland in Northeast China. Chinese Geographical Science, 2018, 28, 694-706.	1.2	7
115	Soil nematode community composition and stability under different nitrogen additions in a semiarid grassland. Global Ecology and Conservation, 2020, 22, e00965.	1.0	7
116	Mixing effects of litter decomposition at plant organ and species levels in a temperate grassland. Plant and Soil, 2021, 459, 387-396.	1.8	7
117	Nitrogen addition reduced carbon mineralization of aggregates in forest soils but enhanced in paddy soils in South China. Ecological Processes, 2021, 10, .	1.6	7
118	Belowground bud bank and its relationship with aboveground vegetation under watering and nitrogen addition in temperate semiarid steppe. Ecological Indicators, 2021, 125, 107520.	2.6	7
119	Diversity and composition of understory vegetation in the tropical seasonal rain forest of Xishuangbanna, SW China. Revista De Biologia Tropical, 2011, 59, .	0.1	7
120	Frequency and intensity of nitrogen addition alter soil inorganic sulfur fractions, but the effects vary with mowing management in a temperate steppe. Biogeosciences, 2019, 16, 2891-2904.	1.3	6
121	Temporal Effects of Thinning on the Leaf C:N:P Stoichiometry of Regenerated Broadleaved Trees in Larch Plantations. Forests, 2020, 11, 54.	0.9	6
122	Changes of plant community composition instead of soil nutrient status drive the legacy effects of historical nitrogen deposition on plant community N:P stoichiometry. Plant and Soil, 2020, 453, 503-513.	1.8	6
123	Mowing weakens the positive effects of nitrogen deposition on fundamental ecosystem service of grassland. Ecological Processes, 2021, 10, .	1.6	6
124	Annual mowing mitigates the negative legacy effects of N enrichment on grassland nutrient use efficiency. Journal of Plant Ecology, 2021, 14, 959-969.	1.2	6
125	Nitrogen and phosphorus additions interactively affected composition and carbon budget of soil nematode community in a temperate steppe. Plant and Soil, 2022, 473, 109-121.	1.8	6
126	Effects of plant intraspecific variation on the prediction of C3/C4 vegetation ratio from carbon isotope composition of topsoil organic matter across grasslands. Journal of Plant Ecology, 2021, 14, 628-637.	1.2	5

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127	Effects of Nitrogen Addition and Fire on Plant Nitrogen Use in a Temperate Steppe. PLoS ONE, 2014, 9, e90057.	1.1	4
128	Nutrient resorption and coupling relationships in two plant species with sulfur addition: A two-year study in a meadow. Plant and Soil, 2023, 491, 45-56.	1.8	4
129	Response of carbon dioxide emissions to sheep grazing and N application in an alpine grassland â€“ Part 2: Effect of N application. Biogeosciences, 2014, 11, 1751-1757.	1.3	3
130	Should we respect the historical reference as basis for the objective of forest restoration? A case study from Northeastern China. New Forests, 2014, 45, 671-686.	0.7	3
131	Changes of community composition strengthen the positive effects of nitrogen deposition on litter N:P stoichiometry in a semi-arid grassland. Plant and Soil, 2022, 473, 63-71.	1.8	3
132	Immediate responses of soil nematode community to addition of multiple nutrients in a degraded grassland. Plant and Soil, 2022, 473, 123-136.	1.8	2
133	Linking changes of forage production and digestibility with grassland community assembly under nitrogen enrichment. Ecological Processes, 2021, 10, .	1.6	2
134	Small Roots of Parashorea chinensis Wang Hsie Decompose Slower than Twigs. Forests, 2019, 10, 301.	0.9	1
135	Neutral responses of plant community Ca concentration to nitrogen enrichment in a semiarid grassland. Journal of Plant Ecology, 2022, 15, 286-293.	1.2	1
136	Effects of nitrogen addition on plant manganese nutrition in a temperate steppe. Journal of Plant Nutrition and Soil Science, 0, , .	1.1	1
137	Impacts of Nitrogen Deposition on Chinaâ€™s Grassland Ecosystems. , 2020, , 215-243.		0