Christopher Schadt

List of Publications by Year in descending order

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25034 24982 13,127 133 57 109 citations h-index g-index papers 148 148 148 14342 docs citations times ranked citing authors all docs

#	Article	IF	CITATIONS
1	Soil Microbial Community Responses to Multiple Experimental Climate Change Drivers. Applied and Environmental Microbiology, 2010, 76, 999-1007.	3.1	690
2	Seasonal Dynamics of Previously Unknown Fungal Lineages in Tundra Soils. Science, 2003, 301, 1359-1361.	12.6	586
3	GeoChip: a comprehensive microarray for investigating biogeochemical, ecological and environmental processes. ISME Journal, 2007, $1,67-77$.	9.8	554
4	Distinct Microbial Communities within the Endosphere and Rhizosphere of Populus deltoides Roots across Contrasting Soil Types. Applied and Environmental Microbiology, 2011, 77, 5934-5944.	3.1	524
5	A genomic catalog of Earth's microbiomes. Nature Biotechnology, 2021, 39, 499-509.	17.5	457
6	Longâ€term nitrogen fertilization decreases bacterial diversity and favors the growth of <i>Actinobacteria</i> and <i>Proteobacteria</i> in agroâ€ecosystems across the globe. Global Change Biology, 2018, 24, 3452-3461.	9.5	436
7	Massively parallel rRNA gene sequencing exacerbates the potential for biased community diversity comparisons due to variable library sizes. Environmental Microbiology, 2012, 14, 285-290.	3.8	386
8	Labile soil carbon inputs mediate the soil microbial community composition and plant residue decomposition rates. New Phytologist, 2010, 188, 1055-1064.	7. 3	352
9	The Populus holobiont: dissecting the effects of plant niches and genotype on the microbiome. Microbiome, 2018, 6, 31.	11.1	340
10	Network succession reveals the importance of competition in response to emulsified vegetable oil amendment for uranium bioremediation. Environmental Microbiology, 2016, 18, 205-218.	3.8	339
11	A Multifactor Analysis of Fungal and Bacterial Community Structure in the Root Microbiome of Mature Populus deltoides Trees. PLoS ONE, 2013, 8, e76382.	2.5	315
12	Spatial scaling of functional gene diversity across various microbial taxa. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 7768-7773.	7.1	285
13	Plant host and soil origin influence fungal and bacterial assemblages in the roots of woody plants. Molecular Ecology, 2014, 23, 3356-3370.	3.9	285
14	Changes in Soil Microbial Community Structure and Function in an Alpine Dry Meadow Following Spring Snow Melt. Microbial Ecology, 2002, 43, 307-314.	2.8	269
15	Microarray-Based Analysis of Subnanogram Quantities of Microbial Community DNAs by Using Whole-Community Genome Amplification. Applied and Environmental Microbiology, 2006, 72, 4931-4941.	3.1	263
16	The effects of chronic nitrogen fertilization on alpine tundra soil microbial communities: implications for carbon and nitrogen cycling. Environmental Microbiology, 2008, 10, 3093-3105.	3.8	252
17	Sulfate-Reducing Bacterium Desulfovibrio desulfuricans ND132 as a Model for Understanding Bacterial Mercury Methylation. Applied and Environmental Microbiology, 2011, 77, 3938-3951.	3.1	252
18	Comparative metagenomic and <scp>rRNA</scp> microbial diversity characterization using archaeal and bacterial synthetic communities. Environmental Microbiology, 2013, 15, 1882-1899.	3.8	202

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19	Denitrifying Bacteria from the Genus Rhodanobacter Dominate Bacterial Communities in the Highly Contaminated Subsurface of a Nuclear Legacy Waste Site. Applied and Environmental Microbiology, 2012, 78, 1039-1047.	3.1	184
20	Response of the Soil Microbial Community to Changes in Precipitation in a Semiarid Ecosystem. Applied and Environmental Microbiology, 2012, 78, 8587-8594.	3.1	179
21	Photoautotrophic symbiont and geography are major factors affecting highly structured and diverse bacterial communities in the lichen microbiome. Environmental Microbiology, 2012, 14, 147-161.	3.8	176
22	Organic matter transformation in the peat column at Marcell Experimental Forest: Humification and vertical stratification. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 661-675.	3.0	170
23	Microarray Applications in Microbial Ecology Research. Microbial Ecology, 2006, 52, 159-175.	2.8	164
24	Twenty-One Genome Sequences from Pseudomonas Species and 19 Genome Sequences from Diverse Bacteria Isolated from the Rhizosphere and Endosphere of Populus deltoides. Journal of Bacteriology, 2012, 194, 5991-5993.	2.2	164
25	Stability of peatland carbon to rising temperatures. Nature Communications, 2016, 7, 13723.	12.8	162
26	Comparative genomics of <i>Mortierella elongata</i> and its bacterial endosymbiont <i>Mycoavidus cysteinexigens</i> . Environmental Microbiology, 2017, 19, 2964-2983.	3.8	154
27	Effects of soil type and farm management on soil ecological functional genes and microbial activities. ISME Journal, 2010, 4, 1099-1107.	9.8	134
28	Towards a holistic understanding of the beneficial interactions across the <i>Populus</i> microbiome. New Phytologist, 2015, 205, 1424-1430.	7.3	131
29	Fruit and Soil Quality of Organic and Conventional Strawberry Agroecosystems. PLoS ONE, 2010, 5, e12346.	2.5	127
30	Combined inactivation of the Clostridium cellulolyticum lactate and malate dehydrogenase genes substantially increases ethanol yield from cellulose and switchgrass fermentations. Biotechnology for Biofuels, 2012, 5, 2.	6.2	125
31	Microbial Community Stratification Linked to Utilization of Carbohydrates and Phosphorus Limitation in a Boreal Peatland at Marcell Experimental Forest, Minnesota, USA. Applied and Environmental Microbiology, 2014, 80, 3518-3530.	3.1	114
32	Microbial dormancy improves development and experimental validation of ecosystem model. ISME Journal, 2015, 9, 226-237.	9.8	113
33	Rhizosphere microbiomes diverge among Populus trichocarpa plant-host genotypes and chemotypes, but it depends on soil origin. Microbiome, 2019, 7, 76.	11.1	109
34	A Limited Microbial Consortium Is Responsible for Extended Bioreduction of Uranium in a Contaminated Aquifer. Applied and Environmental Microbiology, 2011, 77, 5955-5965.	3.1	108
35	Methane emissions from tree stems: a new frontier in the global carbon cycle. New Phytologist, 2019, 222, 18-28.	7.3	104
36	Microbial Metabolic Potential for Carbon Degradation and Nutrient (Nitrogen and Phosphorus) Acquisition in an Ombrotrophic Peatland. Applied and Environmental Microbiology, 2014, 80, 3531-3540.	3.1	102

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37	<i>Pseudomonas fluorescens</i> Induces Strain-Dependent and Strain-Independent Host Plant Responses in Defense Networks, Primary Metabolism, Photosynthesis, and Fitness. Molecular Plant-Microbe Interactions, 2012, 25, 765-778.	2.6	100
38	Evaluation and validation of de novo and hybrid assembly techniques to derive high-quality genome sequences. Bioinformatics, 2014, 30, 2709-2716.	4.1	99
39	Microarray-Based Analysis of Microbial Community RNAs by Whole-Community RNA Amplification. Applied and Environmental Microbiology, 2007, 73, 563-571.	3.1	98
40	Widespread occurrence and phylogenetic placement of a soil clone group adds a prominent new branch to the fungal tree of life. Molecular Phylogenetics and Evolution, 2008, 46, 635-644.	2.7	95
41	Mycorrhizal and Dark-Septate Fungi in Plant Roots Above 4270 Meters Elevation in the Andes and Rocky Mountains. Arctic, Antarctic, and Alpine Research, 2008, 40, 576-583.	1.1	93
42	Abiotic Stresses Shift Belowground <i>Populus</i> -Associated Bacteria Toward a Core Stress Microbiome. MSystems, 2018, 3, .	3.8	89
43	Isolating a functionally relevant guild of fungi from the root microbiome of Populus. Fungal Ecology, 2016, 22, 35-42.	1.6	88
44	Molecular and Metabolic Characterization of Cold-Tolerant Alpine Soil Pseudomonas Sensu Stricto. Applied and Environmental Microbiology, 2004, 70, 483-489.	3.1	87
45	Assessment of 10 years of CO2 fumigation on soil microbial communities and function in a sweetgum plantation. Soil Biology and Biochemistry, 2009, 41, 514-520.	8.8	84
46	Bioavailability-Based In Situ Remediation To Meet Future Lead (Pb) Standards in Urban Soils and Gardens. Environmental Science & Environmental Science	10.0	82
47	Sequencing of Multiple Clostridial Genomes Related to Biomass Conversion and Biofuel Production. Journal of Bacteriology, 2010, 192, 6494-6496.	2.2	81
48	In Situ Bioremediation of Uranium with Emulsified Vegetable Oil as the Electron Donor. Environmental Science & Environmental S	10.0	81
49	Functional Gene Array-Based Analysis of Microbial Community Structure in Groundwaters with a Gradient of Contaminant Levels. Environmental Science & E	10.0	80
50	Common bacterial responses in six ecosystems exposed to 10 years of elevated atmospheric carbon dioxide. Environmental Microbiology, 2012, 14, 1145-1158.	3.8	79
51	Variability in soil properties at different spatial scales (1m–1km) in a deciduous forest ecosystem. Soil Biology and Biochemistry, 2007, 39, 2621-2627.	8.8	78
52	Variation in root architecture among switchgrass cultivars impacts root decomposition rates. Soil Biology and Biochemistry, 2013, 58, 198-206.	8.8	77
53	Intra-annual changes in biomass, carbon, and nitrogen dynamics at 4-year old switchgrass field trials in west Tennessee, USAâ ⁺ †. Agriculture, Ecosystems and Environment, 2010, 136, 177-184.	5.3	72
54	Structural and functional diversity of soil bacterial and fungal communities following woody plant encroachment in the southern Great Plains. Soil Biology and Biochemistry, 2010, 42, 1816-1824.	8.8	72

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55	Fungal-Bacterial Networks in the Populus Rhizobiome Are Impacted by Soil Properties and Host Genotype. Frontiers in Microbiology, 2019, 10, 481.	3.5	71
56	Diversity of Pseudomonas Genomes, Including Populus-Associated Isolates, as Revealed by Comparative Genome Analysis. Applied and Environmental Microbiology, 2016, 82, 375-383.	3.1	70
57	Improvement of Oligonucleotide Probe Design Criteria for Functional Gene Microarrays in Environmental Applications. Applied and Environmental Microbiology, 2006, 72, 1688-1691.	3.1	68
58	Global meta-analyses show that conservation tillage practices promote soil fungal and bacterial biomass. Agriculture, Ecosystems and Environment, 2020, 293, 106841.	5.3	63
59	Afforestation Alters the Composition of Functional Genes in Soil and Biogeochemical Processes in South American Grasslands. Applied and Environmental Microbiology, 2009, 75, 6240-6248.	3.1	60
60	Metabolic functions of Pseudomonas fluorescens strains from Populus deltoides depend on rhizosphere or endosphere isolation compartment. Frontiers in Microbiology, 2015, 6, 1118.	3.5	60
61	Representation of Dormant and Active Microbial Dynamics for Ecosystem Modeling. PLoS ONE, 2014, 9, e89252.	2.5	59
62	Elevated carbon dioxide accelerates the spatial turnover of soil microbial communities. Global Change Biology, 2016, 22, 957-964.	9.5	57
63	Responses of soil cellulolytic fungal communities to elevated atmospheric CO ₂ are complex and variable across five ecosystems. Environmental Microbiology, 2011, 13, 2778-2793.	3.8	56
64	Detection and Diversity of Fungal Nitric Oxide Reductase Genes (<i>p450nor</i>) in Agricultural Soils. Applied and Environmental Microbiology, 2016, 82, 2919-2928.	3.1	55
65	Soil metabolome response to whole-ecosystem warming at the Spruce and Peatland Responses under Changing Environments experiment. Proceedings of the National Academy of Sciences of the United States of America, $2021,118,.$	7.1	54
66	Enrichment of Root Endophytic Bacteria from Populus deltoides and Single-Cell-Genomics Analysis. Applied and Environmental Microbiology, 2016, 82, 5698-5708.	3.1	53
67	Methanogenic Archaea dominate mature heartwood habitats of Eastern Cottonwood (<i>Populus) Tj ETQq1 1 (</i>	0.784314 t 7.3	rgBT /Overloc
68	Minnesota peat viromes reveal terrestrial and aquatic niche partitioning for local and global viral populations. Microbiome, 2021, 9, 233.	11.1	53
69	Fungal Endophytes of <i>Populus trichocarpa </i> Alter Host Phenotype, Gene Expression, and Rhizobiome Composition. Molecular Plant-Microbe Interactions, 2019, 32, 853-864.	2.6	52
70	A Carotenoid-Deficient Mutant in Pantoea sp. YR343, a Bacteria Isolated from the Rhizosphere of Populus deltoides, Is Defective in Root Colonization. Frontiers in Microbiology, 2016, 7, 491.	3.5	48
71	Molybdenum-Based Diazotrophy in a Sphagnum Peatland in Northern Minnesota. Applied and Environmental Microbiology, 2017, 83, .	3.1	46
72	Changes in bacterial community structure correlate with initial operating conditions of a field-scale denitrifying fluidized bed reactor. Applied Microbiology and Biotechnology, 2006, 71, 748-760.	3.6	44

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73	Phylogenomics Reveal the Dynamic Evolution of Fungal Nitric Oxide Reductases and Their Relationship to Secondary Metabolism. Genome Biology and Evolution, 2018, 10, 2474-2489.	2.5	44
74	<i>Atractiella rhizophila</i> , sp. nov., an endorrhizal fungus isolated from the <i>Populus</i> root microbiome. Mycologia, 2017, 109, 18-26.	1.9	43
75	Microbial Diversity and Bioremediation of a Hydrocarbon-Contaminated Aquifer (Vega Baja, Puerto) Tj ETQq1 1 C).784314 2.6	rgBT /Overloc
76	Response of "Alamo―switchgrass tissue chemistry and biomass to nitrogen fertilization in West Tennessee, USA. Agriculture, Ecosystems and Environment, 2011, 140, 289-297.	5.3	42
77	Microbial Community Succession during Lactate Amendment and Electron Acceptor Limitation Reveals a Predominance of Metal-Reducing Pelosinus spp. Applied and Environmental Microbiology, 2012, 78, 2082-2091.	3.1	42
78	PanFP: pangenome-based functional profiles for microbial communities. BMC Research Notes, 2015, 8, 479.	1.4	38
79	Isolation and phylogenetic identification of a dark-septate fungus associated with the alpine plantRanunculus adoneus. New Phytologist, 2001, 150, 747-755.	7.3	37
80	Ectomycorrhizal transfer of amino acid-nitrogen to the alpine sedgeKobresia myosuroides. New Phytologist, 1999, 142, 163-167.	7.3	36
81	Establishment and metabolic analysis of a model microbial community for understanding trophic and electron accepting interactions of subsurface anaerobic environments. BMC Microbiology, 2010, 10, 149.	3.3	36
82	Firing Range Soils Yield a Diverse Array of Fungal Isolates Capable of Organic Acid Production and Pb Mineral Solubilization. Applied and Environmental Microbiology, 2012, 78, 6078-6086.	3.1	36
83	Plant Hosts Modify Belowground Microbial Community Response to Extreme Drought. MSystems, 2020, 5, .	3 . 8	36
84	New North American truffles (<i>Tuber</i> spp.) and their ectomycorrhizal associations. Mycologia, 2013, 105, 194-209.	1.9	34
85	U(VI) Bioreduction with Emulsified Vegetable Oil as the Electron Donor – Model Application to a Field Test. Environmental Science & Environmental S	10.0	31
86	Divergent Responses of Forest Soil Microbial Communities under Elevated CO 2 in Different Depths of Upper Soil Layers. Applied and Environmental Microbiology, 2018, 84, .	3.1	31
87	Influences of nitrogen fertilization and climate regime on the above-ground biomass yields of miscanthus and switchgrass: A meta-analysis. Renewable and Sustainable Energy Reviews, 2019, 108, 303-311.	16.4	31
88	Plant–Microbe Interactions: From Genes to Ecosystems Using <i>Populus</i> as a Model System. Phytobiomes Journal, 2021, 5, 29-38.	2.7	31
89	Fire alters plant microbiome assembly patterns: integrating the plant and soil microbial response to disturbance. New Phytologist, 2021, 230, 2433-2446.	7.3	29
90	Fungal genome sequencing and bioenergy. Fungal Biology Reviews, 2008, 22, 1-5.	4.7	27

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91	Characterization of a novel, ubiquitous fungal endophyte from the rhizosphere and root endosphere of Populus trees. Fungal Ecology, 2017, 27, 78-86.	1.6	27
92	Donorâ€dependent Extent of Uranium Reduction for Bioremediation of Contaminated Sediment Microcosms. Journal of Environmental Quality, 2009, 38, 53-60.	2.0	26
93	U(VI) Bioreduction with Emulsified Vegetable Oil as the Electron Donor – Microcosm Tests and Model Development. Environmental Science & Environment	10.0	26
94	Temperature sensitivity of extracellular enzymes differs with peat depth but not with season in an ombrotrophic bog. Soil Biology and Biochemistry, 2018, 125, 244-250.	8.8	25
95	Assembly of the <i>Populus</i> Microbiome Is Temporally Dynamic and Determined by Selective and Stochastic Factors. MSphere, 2021, 6, e0131620.	2.9	25
96	Dynamic Succession of Groundwater Functional Microbial Communities in Response to Emulsified Vegetable Oil Amendment during Sustained <i>In Situ</i> U(VI) Reduction. Applied and Environmental Microbiology, 2015, 81, 4164-4172.	3.1	24
97	Comment on "Global diversity and geography of soil fungiâ€: Science, 2015, 348, 1438-1438.	12.6	23
98	Climateâ€driven reduction of genetic variation in plant phenology alters soil communities and nutrient pools. Global Change Biology, 2019, 25, 1514-1528.	9.5	23
99	Climate-driven divergence in plant-microbiome interactions generates range-wide variation in bud break phenology. Communications Biology, 2021, 4, 748.	4.4	23
100	Elevated CO2 and plant species diversity interact to slow root decomposition. Soil Biology and Biochemistry, 2011, 43, 2347-2354.	8.8	22
101	Dynamic Succession of Groundwater Sulfate-Reducing Communities during Prolonged Reduction of Uranium in a Contaminated Aquifer. Environmental Science & Environmental Science & 2017, 51, 3609-3620.	10.0	22
102	Phosphorus rather than nitrogen enhances CO ₂ emissions in tropical forest soils: Evidence from a laboratory incubation study. European Journal of Soil Science, 2020, 71, 495-510.	3.9	21
103	Microbial functional genes commonly respond to elevated carbon dioxide. Environment International, 2020, 144, 106068.	10.0	20
104	Kinetic analysis and modeling of oleate and ethanol stimulated uranium (VI) bio-reduction in contaminated sediments under sulfate reduction conditions. Journal of Hazardous Materials, 2010, 183, 482-489.	12.4	19
105	Linking Associations of Rare Low-Abundance Species to Their Environments by Association Networks. Frontiers in Microbiology, 2018, 9, 297.	3.5	19
106	Multi-year incubation experiments boost confidence in model projections of long-term soil carbon dynamics. Nature Communications, 2020, 11, 5864.	12.8	18
107	Cultivating the Bacterial Microbiota of <i>Populus</i> Roots. MSystems, 2021, 6, e0130620.	3.8	17
108	Draft Genome Sequence of Rhizobium sp. Strain PDO1-076, a Bacterium Isolated from Populus deltoides. Journal of Bacteriology, 2012, 194, 2383-2384.	2.2	16

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109	Modification of plant cell wall chemistry impacts metabolome and microbiome composition in Populus PdKOR1 RNAi plants. Plant and Soil, 2018, 429, 349-361.	3.7	16
110	Watershed-Scale Fungal Community Characterization along a pH Gradient in a Subsurface Environment Cocontaminated with Uranium and Nitrate. Applied and Environmental Microbiology, 2014, 80, 1810-1820.	3.1	15
111	Peatland Microbial Community Composition Is Driven by a Natural Climate Gradient. Microbial Ecology, 2020, 80, 593-602.	2.8	15
112	Nitrogen and phosphorus cycling in an ombrotrophic peatland: a benchmark for assessing change. Plant and Soil, 2021, 466, 649-674.	3.7	15
113	Development and validation of a citrate synthase directed quantitative PCR marker for soil bacterial communities. Applied Soil Ecology, 2012, 61, 69-75.	4.3	13
114	Constraints on microbial communities, decomposition and methane production in deep peat deposits. PLoS ONE, 2020, 15, e0223744.	2.5	13
115	Natural soil microbiome variation affects spring foliar phenology with consequences for plant productivity and climateâ€driven range shifts. New Phytologist, 2021, 232, 762-775.	7.3	12
116	An Integrative Model for Soil Biogeochemistry and Methane Processes: I. Model Structure and Sensitivity Analysis. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2019JG005468.	3.0	11
117	Design and Use of Functional Gene Microarrays (FGAs) for the Characterization of Microbial Communities. Methods in Microbiology, 2004, 34, 331-368.	0.8	10
118	Precipitation and nitrogen application stimulate soil nitrous oxide emission. Nutrient Cycling in Agroecosystems, 2021, 120, 363-378.	2.2	10
119	A k-mer based approach for classifying viruses without taxonomy identifies viral associations in human autism and plant microbiomes. Computational and Structural Biotechnology Journal, 2021, 19, 5911-5919.	4.1	10
120	One-time nitrogen fertilization shifts switchgrass soil microbiomes within a context of larger spatial and temporal variation. PLoS ONE, 2019, 14, e0211310.	2.5	9
121	Ectomycorrhizal fungal diversity interacts with soil nutrients to predict plant growth despite weak plant-soil feedbacks. Plant and Soil, 2020, 453, 445-458.	3.7	9
122	Draft Genome Sequences of Four Streptomyces Isolates from the Populus trichocarpa Root Endosphere and Rhizosphere. Genome Announcements, 2015, 3, .	0.8	7
123	Phylogenetic diversity of 200+ isolates of the ectomycorrhizal fungus Cenococcum geophilum associated with Populus trichocarpa soils in the Pacific Northwest, USA and comparison to globally distributed representatives. PLoS ONE, 2021, 16, e0231367.	2.5	7
124	Differential Organic Carbon Mineralization Responses to Soil Moisture in Three Different Soil Orders Under Mixed Forested System. Frontiers in Environmental Science, 2021, 9, .	3.3	7
125	Advances in Microarray-Based Technologies for Soil Microbial Community Analyses. , 2006, , 189-203.		4
126	Beyond the usual suspects: methanogenic communities in eastern North American peatlands are also influenced by nickel and copper concentrations. FEMS Microbiology Letters, 2021, , .	1.8	4

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127	Intensified Soil Moisture Extremes Decrease Soil Organic Carbon Decomposition: A Mechanistic Modeling Analysis. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2021JG006392.	3.0	3
128	Heterospecific Neighbor Plants Impact Root Microbiome Diversity and Molecular Function of Root Fungi. Frontiers in Microbiology, 2021, 12, 680267.	3.5	3
129	Draft Genome Sequence of <i>Larkinella</i> sp. Strain BK230, Isolated from <i>Populus deltoides</i> Roots. Microbiology Resource Announcements, 2020, 9, .	0.6	2
130	Relationships between Sphaerulina musiva Infection and the <i>Populus</i> Microbiome and Metabolome. MSystems, 2022, 7, .	3.8	2
131	Draft Genome Sequence of <i>Tumebacillus</i> sp. Strain BK434, Isolated from the Roots of Eastern Cottonwood. Microbiology Resource Announcements, 2020, 9, .	0.6	1
132	Organic Versus Conventional Strawberry Agroecosystem. , 2013, , .		0
133	Single-Cell Genomics. , 0, , 267-278.		O