

Burkhard Bädel

List of Publications by Year in descending order

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74
papers

4,334
citations

126708

33
h-index

114278

63
g-index

76
all docs

76
docs citations

76
times ranked

4288
citing authors

#	ARTICLE	IF	CITATIONS
1	Contribution of cryptogamic covers to the global cycles of carbon and nitrogen. <i>Nature Geoscience</i> , 2012, 5, 459-462.	5.4	711
2	The Ascomycota Tree of Life: A Phylum-wide Phylogeny Clarifies the Origin and Evolution of Fundamental Reproductive and Ecological Traits. <i>Systematic Biology</i> , 2009, 58, 224-239.	2.7	581
3	Dryland photoautotrophic soil surface communities endangered by global change. <i>Nature Geoscience</i> , 2018, 11, 185-189.	5.4	302
4	Southern African Biological Soil Crusts are Ubiquitous and Highly Diverse in Drylands, Being Restricted by Rainfall Frequency. <i>Microbial Ecology</i> , 2009, 57, 229-247.	1.4	271
5	Ecology and diversity of rock-inhabiting cyanobacteria in tropical regions. <i>European Journal of Phycology</i> , 1999, 34, 361-370.	0.9	104
6	Improved appreciation of the functioning and importance of biological soil crusts in Europe: the Soil Crust International Project (SCIN). <i>Biodiversity and Conservation</i> , 2014, 23, 1639-1658.	1.2	93
7	Cyanobacteria and Algae of Biological Soil Crusts. <i>Ecological Studies</i> , 2016, , 55-80.	0.4	91
8	What is a biocrust? A refined, contemporary definition for a broadening research community. <i>Biological Reviews</i> , 2022, 97, 1768-1785.	4.7	87
9	Evidence for the functioning of photosynthetic CO ₂ -concentrating mechanisms in lichens containing green algal and cyanobacterial photobionts. <i>Planta</i> , 1993, 191, 57.	1.6	77
10	Controls on Distribution Patterns of Biological Soil Crusts at Micro- to Global Scales. <i>Ecological Studies</i> , 2016, , 173-197.	0.4	77
11	Pedogenic and microbial interrelations to regional climate and local topography: New insights from a climate gradient (arid to humid) along the Coastal Cordillera of Chile. <i>Catena</i> , 2018, 170, 335-355.	2.2	77
12	Development of the polysaccharidic matrix in biocrusts induced by a cyanobacterium inoculated in sand microcosms. <i>Biology and Fertility of Soils</i> , 2018, 54, 27-40.	2.3	72
13	DEWFALL AS A WATER SOURCE FREQUENTLY ACTIVATES THE ENDOLITHIC CYANOBACTERIAL COMMUNITIES IN THE GRANITES OF TAYLOR VALLEY, ANTARCTICA ¹ . <i>Journal of Phycology</i> , 2008, 44, 1415-1424.	1.0	66
14	Genus richness of microalgae and Cyanobacteria in biological soil crusts from Svalbard and Livingston Island: morphological versus molecular approaches. <i>Polar Biology</i> , 2018, 41, 909-923.	0.5	65
15	Biological soil crusts of Arctic Svalbard and of Livingston Island, Antarctica. <i>Polar Biology</i> , 2017, 40, 399-411.	0.5	63
16	Can Antarctic lichens acclimatize to changes in temperature?. <i>Global Change Biology</i> , 2018, 24, 1123-1135.	4.2	63
17	Habitat stress initiates changes in composition, CO ₂ gas exchange and C-allocation as life traits in biological soil crusts. <i>ISME Journal</i> , 2014, 8, 2104-2115.	4.4	62
18	Carotenoid composition of terrestrial cyanobacteria: response to natural light conditions in open rock habitats in Venezuela. <i>European Journal of Phycology</i> , 2001, 36, 367-375.	0.9	61

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19	Genotypic and Phenotypic Diversity of Cyanobacteria in Biological Soil Crusts of the Succulent Karoo and Nama Karoo of Southern Africa. <i>Microbial Ecology</i> , 2014, 67, 286-301.	1.4	60
20	Cyanobacterial diversity of western European biological soil crusts along a latitudinal gradient. <i>FEMS Microbiology Ecology</i> , 2016, 92, fiv157.	1.3	58
21	Biogeography of photoautotrophs in the high polar biome. <i>Frontiers in Plant Science</i> , 2015, 6, 692.	1.7	56
22	Photosynthetic field capacity of cyanobacteria of a tropical inselberg of the Guiana Highlands. <i>European Journal of Phycology</i> , 2003, 38, 247-256.	0.9	50
23	Biodiversity of Algae and Cyanobacteria in Biological Soil Crusts Collected Along a Climatic Gradient in Chile Using an Integrative Approach. <i>Microorganisms</i> , 2020, 8, 1047.	1.6	48
24	Lichen acclimation to changing environments: Photobiont switching vs. climate-specific uniqueness in <i>Psora decipiens</i> . <i>Ecology and Evolution</i> , 2017, 7, 2560-2574.	0.8	46
25	A Case Study on Fog/Low Stratus Occurrence at Las Lomitas, Atacama Desert (Chile) as a Water Source for Biological Soil Crusts. <i>Aerosol and Air Quality Research</i> , 2018, 18, 254-26.	0.9	46
26	Biological soil crusts along a climatic gradient in Chile: Richness and imprints of phototrophic microorganisms in phosphorus biogeochemical cycling. <i>Soil Biology and Biochemistry</i> , 2018, 127, 286-300.	4.2	45
27	Lichen carbon gain under tropical conditions: water relations and CO2 exchange of Lobariaceae species of a lower montane rainforest in Panama. <i>Lichenologist</i> , 2004, 36, 329-342.	0.5	43
28	Range-wide phylogeography of the European temperate-montane herbaceous plant <i>Meum athamanticum</i> Jacq.: evidence for periglacial persistence. <i>Journal of Biogeography</i> , 2009, 36, 1588-1599.	1.4	43
29	Biological soil crusts in continental Antarctica: Garwood Valley, southern Victoria Land, and Diamond Hill, Darwin Mountains region. <i>Antarctic Science</i> , 2014, 26, 115-123.	0.5	42
30	Lichen carbon gain under tropical conditions : water relations and CO2 exchange of three <i>Leptogium</i> species of a lower montane rainforest in Panama. <i>Flora: Morphology, Distribution, Functional Ecology of Plants</i> , 2000, 195, 172-190.	0.6	41
31	Adaptive differentiation coincides with local bioclimatic conditions along an elevational cline in populations of a lichen-forming fungus. <i>BMC Evolutionary Biology</i> , 2017, 17, 93.	3.2	39
32	The molecular population structure of the tall forb <i>Cicerbita alpina</i> (Asteraceae) supports the idea of cryptic glacial refugia in central Europe. <i>Botanical Journal of the Linnean Society</i> , 2010, 164, 142-154.	0.8	38
33	Annual net primary productivity of a cyanobacteria-dominated biological soil crust in the Gulf Savannah, Queensland, Australia. <i>Biogeosciences</i> , 2018, 15, 491-505.	1.3	38
34	Desert breath—How fog promotes a novel type of soil biocenosis, forming the coastal Atacama Desert's living skin. <i>Geobiology</i> , 2020, 18, 113-124.	1.1	38
35	Effect of vegetation and its succession on water repellency in sandy soils. <i>Ecohydrology</i> , 2018, 11, e1991.	1.1	37
36	Shifting Boundaries: Ecological and Geographical Range extension Based on Three New Species in the Cyanobacterial Genera <i>Cyanocohniella</i> , <i>Oculatella</i> , and <i>Aliterella</i> . <i>Journal of Phycology</i> , 2020, 56, 1216-1231.	1.0	35

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37	DIATOMS LIVING INSIDE THE THALLUS OF THE GREEN ALGAL LICHEN <i>COENOGONIUM LINKII</i> IN NEOTROPICAL LOWLAND RAIN FORESTS. <i>Journal of Phycology</i> , 2004, 40, 70-73.	1.0	30
38	Midday dew – an overlooked factor enhancing photosynthetic activity of corticolous epiphytes in a wet tropical rain forest. <i>New Phytologist</i> , 2012, 194, 245-253.	3.5	30
39	Contrasting hydrological response of coastal and desert biocrusts. <i>Hydrological Processes</i> , 2014, 28, 361-371.	1.1	30
40	Lichen species dominance and the resulting photosynthetic behavior of Sonoran Desert soil crust types (Baja California, Mexico). <i>Ecological Processes</i> , 2013, 2, .	1.6	27
41	Metabolic activity duration can be effectively predicted from macroclimatic data for biological soil crust habitats across Europe. <i>Geoderma</i> , 2017, 306, 10-17.	2.3	27
42	Water availability shapes edaphic and lithic cyanobacterial communities in the Atacama Desert. <i>Journal of Phycology</i> , 2019, 55, 1306-1318.	1.0	27
43	Nitrogen input by cyanobacterial biofilms of an inselberg into a tropical rainforest in French Guiana. <i>Flora: Morphology, Distribution, Functional Ecology of Plants</i> , 2007, 202, 521-529.	0.6	26
44	Macrolichens of Montane Rain Forests in Panama, Province Chiriquí. <i>Lichenologist</i> , 2000, 32, 539-551.	0.5	23
45	Strong in combination: Polyphasic approach enhances arguments for cold-adapted cyanobacterial endemism. <i>MicrobiologyOpen</i> , 2019, 8, e00729.	1.2	23
46	Composition and Macrostructure of Biological Soil Crusts. <i>Ecological Studies</i> , 2016, , 159-172.	0.4	22
47	Biomass assessment of microbial surface communities by means of hyperspectral remote sensing data. <i>Science of the Total Environment</i> , 2017, 586, 1287-1297.	3.9	22
48	Ecological characterization of soil-inhabiting and hypolithic soil crusts within the Knersvlakte, South Africa. <i>Ecological Processes</i> , 2013, 2, .	1.6	21
49	Ecophysiological characterization of early successional biological soil crusts in heavily human-impacted areas. <i>Biogeosciences</i> , 2018, 15, 1919-1931.	1.3	20
50	Uncovering biological soil crusts: carbon content and structure of intact Arctic, Antarctic and alpine biological soil crusts. <i>Biogeosciences</i> , 2018, 15, 1149-1160.	1.3	20
51	Cyanobacteria of inselbergs in the Atlantic rainforest zone of eastern Brazil. <i>Phycologia</i> , 2002, 41, 498-506.	0.6	17
52	Assessing recovery of biological soil crusts across a latitudinal gradient in Western Europe. <i>Restoration Ecology</i> , 2018, 26, 543-554.	1.4	17
53	Usual alga from unusual habitats: Biodiversity of <i>Klebsormidium</i> (Klebsormidiophyceae, Streptophyta) from the phylogenetic superclade C isolated from biological soil crusts. <i>Molecular Phylogenetics and Evolution</i> , 2019, 133, 236-255.	1.2	17
54	Opening the Gap: Rare Lichens With Rare Cyanobionts – Unexpected Cyanobiont Diversity in Cyanobacterial Lichens of the Order Lichinales. <i>Frontiers in Microbiology</i> , 2021, 12, 728378.	1.5	17

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55	Estimating Net Photosynthesis of Biological Soil Crusts in the Atacama Using Hyperspectral Remote Sensing. <i>Remote Sensing</i> , 2018, 10, 891.	1.8	16
56	Cyanobacteria: Habitats and Species. <i>Ecological Studies</i> , 2011, , 11-21.	0.4	15
57	Lichens Bite the Dust – A Bioweathering Scenario in the Atacama Desert. <i>IScience</i> , 2020, 23, 101647.	1.9	15
58	Fast Reactivation by High Air Humidity and Photosynthetic Performance of Alpine Lichens Growing Endolithically in Limestone. <i>Arctic, Antarctic, and Alpine Research</i> , 2007, 39, 309-317.	0.4	14
59	Wet season cyanobacterial N enrichment highly correlated with species richness and <i>Nostoc</i> in the northern Australian savannah. <i>Biogeosciences</i> , 2018, 15, 2149-2159.	1.3	13
60	Functional performance of biocrusts across Europe and its implications for drylands. <i>Journal of Arid Environments</i> , 2021, 186, 104402.	1.2	13
61	Eukaryotic Algae. <i>Ecological Studies</i> , 2011, , 45-63.	0.4	11
62	Species diversity, biomass and long-term patterns of biological soil crusts with special focus on Cyanobacteria of the Acacia aneura Mulga Lands of Queensland, Australia. <i>Algological Studies</i> (Stuttgart, Germany: 2007), 2012, 140, 23-50.	0.4	11
63	Environmental determinants of biocrust carbon fluxes across Europe: possibilities for a functional type approach. <i>Plant and Soil</i> , 2018, 429, 147-157.	1.8	11
64	Neglected but Potent Dry Forest Players: Ecological Role and Ecosystem Service Provision of Biological Soil Crusts in the Human-Modified Caatinga. <i>Frontiers in Ecology and Evolution</i> , 2019, 7, .	1.1	11
65	Emendation of the Coccoid Cyanobacterial Genus <i>Gloeocapsopsis</i> and Description of the New Species <i>Gloeocapsopsis diffluens</i> sp. nov. and <i>Gloeocapsopsis dulcis</i> sp. nov. Isolated From the Coastal Range of the Atacama Desert (Chile). <i>Frontiers in Microbiology</i> , 2021, 12, 671742.	1.5	11
66	Mapping and analysis of distribution patterns of lichens on rural medieval churches in north-eastern Germany. <i>Lichenologist</i> , 2001, 33, 231-248.	0.5	10
67	Biological soil crusts in a changing world: introduction to the special issue. <i>Biodiversity and Conservation</i> , 2014, 23, 1611-1617.	1.2	10
68	Ecophysiology and phylogeny of new terricolous and epiphytic chlorolichens in a fog oasis of the Atacama Desert. <i>MicrobiologyOpen</i> , 2019, 8, e894.	1.2	10
69	Molecular data favours a monogeneric <i>Peltulaceae</i> (Lichinomycetes). <i>Lichenologist</i> , 2018, 50, 313-327.	0.5	9
70	<i>Symphyonema bifilamentata</i> sp. nov., the Right <i>Fischerella ambigua</i> 108b: Half a Decade of Research on Taxonomy and Bioactive Compounds in New Light. <i>Microorganisms</i> , 2021, 9, 745.	1.6	5
71	Habitat fragmentation and forest management alter woody plant communities in a Central European beech forest landscape. <i>Biodiversity and Conservation</i> , 2020, 29, 2729-2747.	1.2	4
72	Final Destination? Pinpointing <i>Hyella disjuncta</i> sp. nov. PCC 6712 (Cyanobacteria) Based on Taxonomic Aspects, Multicellularity, Nitrogen Fixation and Biosynthetic Gene Clusters. <i>Life</i> , 2021, 11, 916.	1.1	2

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73	Otto Ludwig Lange "80 years: Eco-physiology" the key to understanding the function and distribution patterns of plants and lichens. <i>Flora: Morphology, Distribution, Functional Ecology of Plants</i> , 2007, 202, 590-607.	0.6	1
74	Flechten. Der Erfolg einer Symbiose. <i>Biologie in Unserer Zeit</i> , 2010, 40, 322-333.	0.3	0