Michael Bahn

List of Publications by Year
in descending order

147 papers	15,488 citations	26567 56 h-index	19136 118 g-index
193 all docs	193 docs citations	193 times ranked	18264 citing authors

#	Article	IF	Citations
1	Shrub expansion modulates belowground impacts of changing snow conditions in alpine grasslands. Ecology Letters, 2022, 25, 52-64.	3.0	10
2	Negative priming of soil organic matter following long-term in situ warming of sub-arctic soils. Geoderma, 2022, 410, 115652.	2.3	10
3	Contrasting drivers of belowground nitrogen cycling in a montane grassland exposed to a multifactorial global change experiment with elevated CO₂, warming, and drought. Global Change Biology, 2022, 28, 2425-2441.	4.2	25
4	Effects of land use and climate on carbon and nitrogen pool partitioning in European mountain grasslands. Science of the Total Environment, 2022, 822, 153380.	3.9	10
5	Climatic and soil factors explain the two-dimensional spectrum of global plant trait variation. Nature Ecology and Evolution, 2022, 6, 36-50.	3.4	89
6	Field experiments underestimate aboveground biomass response to drought. Nature Ecology and Evolution, 2022, 6, 540-545.	3.4	30
7	Long-term warming reduced microbial biomass but increased recent plant-derived C in microbes of a subarctic grassland. Soil Biology and Biochemistry, 2022, 167, 108590.	4.2	12
8	Drought soil legacy alters drivers of plant diversity-productivity relationships in oldfield systems. Science Advances, 2022, 8, eabn3368.	4.7	21
9	Drought legacies and ecosystem responses to subsequent drought. Global Change Biology, 2022, 28, 5086-5103.	4.2	67
10	Amplifying effects of recurrent drought on the dynamics of tree growth and water use in a subalpine forest. Plant, Cell and Environment, 2022, 45, 2617-2635.	2.8	3
11	Different functional characteristics can explain different dimensions of plant invasion success. Journal of Ecology, 2021, 109, 1524-1536.	1.9	14
12	Climatic and evolutionary contexts are required to infer plant life history strategies from functional traits at a global scale. Ecology Letters, 2021, 24, 970-983.	3.0	19
13	Denitrifying pathways dominate nitrous oxide emissions from managed grassland during drought and rewetting. Science Advances, 2021, 7, .	4.7	71
14	Climate change alters temporal dynamics of alpine soil microbial functioning and biogeochemical cycling via earlier snowmelt. ISME Journal, 2021, 15, 2264-2275.	4.4	51
15	Warming and elevated CO₂ intensify drought and recovery responses of grassland carbon allocation to soil respiration. Global Change Biology, 2021, 27, 3230-3243.	4.2	33
16	Relationships between plantâ€“soil feedbacks and functional traits. Journal of Ecology, 2021, 109, 3411-3423.	1.9	29
17	A hierarchical, multivariate metaâ€analysis approach to synthesising global change experiments. New Phytologist, 2021, 231, 2382-2394.	3.5	8
18	Glacier forelands reveal fundamental plant and microbial controls on shortâ€term ecosystem nitrogen retention. Journal of Ecology, 2021, 109, 3710-3723.	1.9	9

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19	Disentangling climate from soil nutrient effects on plant biomass production using a multispecies phytometer. Ecosphere, 2021, 12, e03719.	1.0	5
20	Ecological memory of recurrent drought modifies soil processes via changes in soil microbial community. Nature Communications, 2021, 12, 5308.	5.8	108
21	The three major axes of terrestrial ecosystem function. Nature, 2021, 598, 468-472.	13.7	99
22	Responses of grassland soil CO2 production and fluxes to drought are shifted in a warmer climate under elevated CO2. Soil Biology and Biochemistry, 2021, 163, 108436.	4.2	10
23	Soil properties as key predictors of global grassland production: Have we overlooked micronutrients?. Ecology Letters, 2021, 24, 2713-2725.	3.0	28
24	Branch water uptake and redistribution in two conifers at the alpine treeline. Scientific Reports, 2021, 11, 22560.	1.6	9
25	Ecosystem fluxes during drought and recovery in an experimental forest. Science, 2021, 374, 1514-1518.	6.0	60
26	Understanding ecosystems of the future will require more than realistic climate change experiments â€“ A response to Korell et al.. Global Change Biology, 2020, 26, e6-e7.	4.2	12
27	Advancing the Understanding of Adaptive Capacity of Socialâ€Ecological Systems to Absorb Climate Extremes. Earth's Future, 2020, 8, e2019EF001221.	2.4	28
28	Does the leaf economic spectrum hold within plant functional types? A Bayesian multivariate trait metaâ€analysis. Ecological Applications, 2020, 30, e02064.	1.8	22
29	TRY plant trait database â€“ enhanced coverage and open access. Global Change Biology, 2020, 26, 119-188.	4.2	1,038
30	Adaptive capacity of coupled social-ecological systems to absorb climate extremes. , 2020, , 257-278.		1
31	A systemic overreaction to years versus decades of warming in a subarctic grassland ecosystem. Nature Ecology and Evolution, 2020, 4, 101-108.	3.4	33
32	Microbial growth and carbon use efficiency show seasonal responses in a multifactorial climate change experiment. Communications Biology, 2020, 3, 584.	2.0	30
33	Plant carbon allocation in a changing world â€“ challenges and progress: introduction to a Virtual Issue on carbon allocation. New Phytologist, 2020, 227, 981-988.	3.5	105
34	Composition and activity of nitrifier communities in soil are unresponsive to elevated temperature and CO2, but strongly affected by drought. ISME Journal, 2020, 14, 3038-3053.	4.4	43
35	Circadian Regulation Does Not Optimize Stomatal Behaviour. Plants, 2020, 9, 1091.	1.6	8
36	Prediction of annual soil respiration from its flux at mean annual temperature. Agricultural and Forest Meteorology, 2020, 287, 107961.	1.9	16

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37	Global plant trait relationships extend to the climatic extremes of the tundra biome. Nature Communications, 2020, 11, 1351.	5.8	52
38	Rainfall manipulation experiments as simulated by terrestrial biosphere models: Where do we stand?. Global Change Biology, 2020, 26, 3336-3355.	4.2	50
39	Post-drought rewetting triggers substantial K release and shifts in leaf stoichiometry in managed and abandoned mountain grasslands. Plant and Soil, 2020, 448, 353-368.	1.8	14
40	Drought and recovery effects on belowground respiration dynamics and the partitioning of recent carbon in managed and abandoned grassland. Global Change Biology, 2020, 26, 4366-4378.	4.2	31
41	Management versus site effects on the abundance of nitrifiers and denitrifiers in European mountain grasslands. Science of the Total Environment, 2019, 648, 745-753.	3.9	18
42	Robustness of trait connections across environmental gradients and growth forms. Global Ecology and Biogeography, 2019, 28, 1806-1826.	2.7	56
43	Artificial Top Soil Drought Hardly Affects Water Use of Picea abies and Larix decidua Saplings at the Treeline in the Austrian Alps. Forests, 2019, 10, 777.	0.9	5
44	Trace gas fluxes from managed grassland soil subject to multifactorial climate change manipulation. Applied Soil Ecology, 2019, 137, 1-11.	2.1	14
45	Microbial carbon and nitrogen cycling responses to drought and temperature in differently managed mountain grasslands. Soil Biology and Biochemistry, 2019, 135, 144-153.	4.2	51
46	Traditional plant functional groups explain variation in economic but not sizeâ€related traits across the tundra biome. Global Ecology and Biogeography, 2019, 28, 78-95.	2.7	49
47	Towards a Comparable Quantification of Resilience. Trends in Ecology and Evolution, 2018, 33, 251-259.	4.2	253
48	Land-use and abandonment alters methane and nitrous oxide fluxesÂinÂmountain grasslands. Science of the Total Environment, 2018, 628-629, 997-1008.	3.9	15
49	Catalytic power of enzymes decreases with temperature: New insights for understanding soil C cycling and microbial ecology under warming. Global Change Biology, 2018, 24, 4238-4250.	4.2	75
50	Greenhouse gas fluxes over managed grasslands in Central Europe. Global Change Biology, 2018, 24, 1843-1872.	4.2	63
51	Spatial patterns and climate relationships of major plant traits in the New World differ between woody and herbaceous species. Journal of Biogeography, 2018, 45, 895-916.	1.4	92
52	Land Use Alters the Drought Responses of Productivity and CO2 Fluxes in Mountain Grassland. Ecosystems, 2018, 21, 689-703.	1.6	55
53	Mean annual precipitation predicts primary production resistance and resilience to extreme drought. Science of the Total Environment, 2018, 636, 360-366.	3.9	109
54	Comparing ecosystem and soil respiration: Review and key challenges of tower-based and soil measurements. Agricultural and Forest Meteorology, 2018, 249, 434-443.	1.9	89

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55	The added value of including key microbial traits to determine nitrogenâ€related ecosystem services in managed grasslands. Journal of Applied Ecology, 2018, 55, 49-58.	1.9	47
56	Land use in mountain grasslands alters drought response and recovery of carbon allocation and plantâ€microbial interactions. Journal of Ecology, 2018, 106, 1230-1243.	1.9	90
57	A methodology to derive global maps of leaf traits using remote sensing and climate data. Remote Sensing of Environment, 2018, 218, 69-88.	4.6	104
58	Plant functional trait change across a warming tundra biome. Nature, 2018, 562, 57-62.	13.7	451
59	Drought-Induced Accumulation of Root Exudates Supports Post-drought Recovery of Microbes in Mountain Grassland. Frontiers in Plant Science, 2018, 9, 1593.	1.7	80
60	Using research networks to create the comprehensive datasets needed to assess nutrient availability as a key determinant of terrestrial carbon cycling. Environmental Research Letters, 2018, 13, 125006.	2.2	36
61	Asymmetric responses of primary productivity to altered precipitation simulated by ecosystem models across three long-term grassland sites. Biogeosciences, 2018, 15, 3421-3437.	1.3	55
62	Accounting for Complexity in Resilience Comparisons: A Reply to Yeung and Richardson, and Further Considerations. Trends in Ecology and Evolution, 2018, 33, 649-651.	4.2	9
63	To replicate, or not to replicate â€“ that is the question: how to tackle nonlinear responses in ecological experiments. Ecology Letters, 2018, 21, 1629-1638.	3.0	146
64	Multiple facets of biodiversity drive the diversityâ€“stability relationship. Nature Ecology and Evolution, 2018, 2, 1579-1587.	3.4	296
65	Night and day â€“ Circadian regulation of night-time dark respiration and light-enhanced dark respiration in plant leaves and canopies. Environmental and Experimental Botany, 2017, 137, 14-25.	2.0	23
66	Elevation alters ecosystem properties across temperate treelines globally. Nature, 2017, 542, 91-95.	13.7	200
67	Winter ecology of a subalpine grassland: Effects of snow removal on soil respiration, microbial structure and function. Science of the Total Environment, 2017, 590-591, 316-324.	3.9	54
68	Decomposing the land-use specific response of plant functional traits along environmental gradients. Science of the Total Environment, 2017, 599-600, 750-759.	3.9	19
69	Circadian rhythms regulate the environmental responses of net CO2 exchange in bean and cotton canopies. Agricultural and Forest Meteorology, 2017, 239, 185-191.	1.9	6
70	Plant community structure and nitrogen inputs modulate the climate signal on leaf traits. Global Ecology and Biogeography, 2017, 26, 1138-1152.	2.7	37
71	Species richness effects on grassland recovery from drought depend on community productivity in a multisite experiment. Ecology Letters, 2017, 20, 1405-1413.	3.0	82
72	Short-term carbon allocation dynamics in subalpine dwarf shrubs and their responses to experimental summer drought. Environmental and Experimental Botany, 2017, 141, 92-102.	2.0	10

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73	Predicting habitat affinities of plant species using commonly measured functional traits. Journal of Vegetation Science, 2017, 28, 1082-1095.	1.1	38
74	Designing an experiment with quantitative treatment factors to study the effects of climate change. Journal of Agronomy and Crop Science, 2017, 203, 584-592.	1.7	17
75	Improved representation of plant functional types and physiology in the Joint UK Land Environment Simulator (JULES v4.2) using plant trait information. Geoscientific Model Development, 2016, 9, 2415-2440.	1.3	115
76	Few multiyear precipitationâ€“reduction experiments find aÂshift in the productivityâ€“precipitation relationship. Global Change Biology, 2016, 22, 2570-2581.	4.2	105
77	Circadian rhythms have significant effects on leaf-to-canopy scale gas exchange under field conditions. GigaScience, 2016, 5, 43.	3.3	31
78	Influence of plant traits, soil microbial properties, and abiotic parameters on nitrogen turnover of grassland ecosystems. Ecosphere, 2016, 7, e01448.	1.0	34
79	Elevated CO ₂ maintains grassland net carbon uptake under a future heat and drought extreme. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 6224-6229.	3.3	112
80	Potential and limitations of inferring ecosystem photosynthetic capacity from leaf functional traits. Ecology and Evolution, 2016, 6, 7352-7366.	0.8	29
81	Drought history affects grassland plant and microbial carbon turnover during and after a subsequent drought event. Journal of Ecology, 2016, 104, 1453-1465.	1.9	94
82	Summer drought alters carbon allocation to roots and root respiration in mountain grassland. New Phytologist, 2015, 205, 1117-1127.	3.5	199
83	A multisite analysis of temporal random errors in soil CO₂ efflux. Journal of Geophysical Research G: Biogeosciences, 2015, 120, 737-751.	1.3	17
84	Importance of nondiffusive transport for soil CO₂ efflux in a temperate mountain grassland. Journal of Geophysical Research G: Biogeosciences, 2015, 120, 502-512.	1.3	38
85	Preface: Climate extremes and biogeochemical cycles in the terrestrial biosphere: impacts and feedbacks across scales. Biogeosciences, 2015, 12, 4827-4830.	1.3	8
86	Relationships between functional traits and inorganic nitrogen acquisition among eight contrasting European grass species. Annals of Botany, 2015, 115, 107-115.	1.4	78
87	The imprint of plants on ecosystem functioning: A data-driven approach. International Journal of Applied Earth Observation and Geoinformation, 2015, 43, 119-131.	1.4	37
88	Effects of climate extremes on the terrestrial carbon cycle: concepts, processes and potential future impacts. Global Change Biology, 2015, 21, 2861-2880.	4.2	683
89	Vegetation effects on the water balance of mountain grasslands depend on climatic conditions. Ecohydrology, 2015, 8, 552-569.	1.1	25
90	Effects of drought on nitrogen turnover and abundances of ammonia-oxidizers in mountain grassland. Biogeosciences, 2014, 11, 6003-6015.	1.3	51

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91	Can current moisture responses predict soil CO₂ efflux under altered precipitation regimes? A synthesis of manipulation experiments. Biogeosciences, 2014, 11, 2991-3013.	1.3	74
92	Corrigendum to "Can current moisture responses predict soil CO₂ efflux under altered precipitation regimes? A synthesis of manipulation experiments". Biogeosciences, 2014, 11, 3307-3308.	1.3	10
93	Climateâ€“biosphere interactions in a more extreme world. New Phytologist, 2014, 202, 356-359.	3.5	51
94	Experimental drought reduces the transfer of recently fixed plant carbon to soil microbes and alters the bacterial community composition in a mountain meadow. New Phytologist, 2014, 201, 916-927.	3.5	261
95	Which is a better predictor of plant traits: temperature or precipitation?. Journal of Vegetation Science, 2014, 25, 1167-1180.	1.1	323
96	Contribution of above- and below-ground plant traits to the structure and function of grassland soil microbial communities. Annals of Botany, 2014, 114, 1011-1021.	1.4	136
97	Linking plant and ecosystem functional biogeography. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13697-13702.	3.3	255
98	Climate extremes and the carbon cycle. Nature, 2013, 500, 287-295.	13.7	1,357
99	Relative contributions of plant traits and soil microbial properties to mountain grassland ecosystem services. Journal of Ecology, 2013, 101, 47-57.	1.9	265
100	Connecting the Green and Brown Worlds. Advances in Ecological Research, 2013, 49, 69-175.	1.4	84
101	Responses of belowground carbon allocation dynamics to extended shading in mountain grassland. New Phytologist, 2013, 198, 116-126.	3.5	84
102	Long-Term Socio-ecological Research in Mountain Regions: Perspectives from the Tyrolean Alps. , 2013, , 505-525.		4
103	Landâ€use change in subalpine grassland soils: Effect on particulate organic carbon fractions and aggregation. Journal of Plant Nutrition and Soil Science, 2012, 175, 401-409.	1.1	24
104	Pulse-labelling trees to study carbon allocation dynamics: a review of methods, current knowledge and future prospects. Tree Physiology, 2012, 32, 776-798.	1.4	223
105	The â€˜Gas-Snakeâ€™: Design and validation of a versatile membrane-based gas flux measurement system in a grassland soil respiration study. Agricultural and Forest Meteorology, 2012, 154-155, 166-173.	1.9	4
106	Free and protected soil organic carbon dynamics respond differently to abandonment of mountain grassland. Biogeosciences, 2012, 9, 853-865.	1.3	40
107	Preface "Biotic interactions and biogeochemical processes in the soil environment". Biogeosciences, 2012, 9, 1823-1825.	1.3	2
108	Preface "Stable Isotopes and Biogeochemical Cycles in Terrestrial Ecosystems''. Biogeosciences, 2012, 9, 3979-3981.	1.3	5

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109	On the choice of the driving temperature for eddy-covariance carbon dioxide flux partitioning. Biogeosciences, 2012, 9, 5243-5259.	1.3	45
110	Drought-induced reduction in uptake of recently photosynthesized carbon by springtails and mites in alpine grassland. Soil Biology and Biochemistry, 2012, 55, 37-39.	4.2	9
111	Redefinition and global estimation of basal ecosystem respiration rate. Global Biogeochemical Cycles, 2011, 25, n/a-n/a.	1.9	43
112	Carbon allocation and carbon isotope fluxes in the plant-soil-atmosphere continuum: a review. Biogeosciences, 2011, 8, 3457-3489.	1.3	289
113	TRY â€“ a global database of plant traits. Global Change Biology, 2011, 17, 2905-2935.	4.2	2,002
114	On the multiâ€temporal correlation between photosynthesis and soil CO₂ efflux: reconciling lags and observations. New Phytologist, 2011, 191, 1006-1017.	3.5	128
115	Soil respiration at mean annual temperature predicts annual total across vegetation types and biomes. Biogeosciences, 2010, 7, 2147-2157.	1.3	99
116	Determination of root and microbial contributions to the CO2 emission from soil by the substrate-induced respiration method. Eurasian Soil Science, 2010, 43, 321-327.	0.5	16
117	Experimental assessment of the contribution of plant root respiration to the emission of carbon dioxide from the soil. Eurasian Soil Science, 2010, 43, 1373-1381.	0.5	22
118	On the â€˜temperature sensitivityâ€™ of soil respiration: Can we use the immeasurable to predict the unknown?. Soil Biology and Biochemistry, 2010, 42, 1653-1656.	4.2	150
119	Synthesis: emerging issues and challenges for an integrated understanding of soil carbon fluxes. , 2010, , 257-271.		7
120	Land use affects the net ecosystem CO₂ exchange and its components in mountain grasslands. Biogeosciences, 2010, 7, 2297-2309.	1.3	98
121	Looking deeper into the soil: biophysical controls and seasonal lags of soil CO₂ production and efflux. Ecological Applications, 2010, 20, 1569-1582.	1.8	120
122	Looking deeper into the soil: biophysical controls and seasonal lags of soil CO₂production and efflux across multiple vegetation types. , 2010, 20, 100319061507001.		1
123	Respiratory fluxes in a Canary Islands pine forest. Tree Physiology, 2009, 29, 457-466.	1.4	20
124	Does photosynthesis affect grassland soilâ€respired CO₂ and its carbon isotope composition on a diurnal timescale?. New Phytologist, 2009, 182, 451-460.	3.5	260
125	Influences of changing land use and CO2 concentration on ecosystem and landscape level carbon and water balances in mountainous terrain of the Stubai Valley, Austria. Global and Planetary Change, 2009, 67, 29-43.	1.6	27
126	Biotic, Abiotic, and Management Controls on the Net Ecosystem CO2 Exchange of European Mountain Grassland Ecosystems. Ecosystems, 2008, 11, 1338-1351.	1.6	122

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127	Soil Respiration in European Grasslands in Relation to Climate and Assimilate Supply. Ecosystems, 2008, 11, 1352-1367.	1.6	276
128	Effects of Land-Use Changes on Sources, Sinks and Fluxes of Carbon in European Mountain Grasslands. Ecosystems, 2008, 11, 1335-1337.	1.6	21
129	Seasonal and interâ€annual variability of the net ecosystem CO₂ exchange of a temperate mountain grassland: Effects of weather and management. Journal of Geophysical Research, 2008, 113, .	3.3	184
130	Patterns in CO2 gas exchange capacity of grassland ecosystems in the Alps. Agricultural and Forest Meteorology, 2008, 148, 51-68.	1.9	33
131	Disentangling leaf area and environmental effects on the response of the net ecosystem CO₂ exchange to diffuse radiation. Geophysical Research Letters, 2008, 35, .	1.5	40
132	Eddy covariance measurements of carbon dioxide, latent and sensible energy fluxes above a meadow on a mountain slope. Boundary-Layer Meteorology, 2007, 122, 397-416.	1.2	83
133	Root respiration in temperate mountain grasslands differing in land use. Global Change Biology, 2006, 12, 995-1006.	4.2	174
134	Quantifying nighttime ecosystem respiration of a meadow using eddy covariance, chambers and modelling. Agricultural and Forest Meteorology, 2005, 128, 141-162.	1.9	132
135	Estimation of daytime ecosystem respiration to determine gross primary production of a mountain meadow. Agricultural and Forest Meteorology, 2005, 130, 13-25.	1.9	108
136	Seasonal and spatial variation of woody tissue respiration in a Pinus cembra tree at the alpine timberline in the central Austrian Alps. Trees - Structure and Function, 2004, 18, 576.	0.9	42
137	Canopy structure versus physiology effects on net photosynthesis of mountain grasslands differing in land use. Ecological Modelling, 2003, 170, 407-426.	1.2	27
138	A multi-component, multi-species model of vegetationâ€“atmosphere CO2 and energy exchange for mountain grasslands. Agricultural and Forest Meteorology, 2001, 106, 261-287.	1.9	57
139	Impact of land-use change on nitrogen mineralization in subalpine grasslands in the Southern Alps. Biology and Fertility of Soils, 2000, 31, 441-448.	2.3	67
140	Linking stable oxygen and carbon isotopes with stomatal conductance and photosynthetic capacity: a conceptual model. Oecologia, 2000, 125, 350-357.	0.9	517
141	A model of whole plant gas exchange for herbaceous species from mountain grassland sites differing in land use. Ecological Modelling, 2000, 125, 173-201.	1.2	22
142	Interâ€specific variation of the biochemical limitation to photosynthesis and related leaf traits of 30 species from mountain grassland ecosystems under different land use. Plant, Cell and Environment, 1999, 22, 1281-1296.	2.8	94
143	The Use of the Ratio between the Photosynthesis Parameters Pmland Vcmaxfor Scaling up Photosynthesis of C3Plants from Leaves to Canopies: A Critical Examination of Different Modelling Approaches. Journal of Theoretical Biology, 1999, 200, 163-181.	0.8	14
144	ECOMONT: a combined approach of field measurements and process-based modelling for assessing effects of land-use changes in mountain landscapes. Ecological Modelling, 1998, 113, 167-178.	1.2	32

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145	A nitrogen sensitive model of leaf carbon dioxide and water vapour gas exchange: application to 13 key species from differently managed mountain grassland ecosystems. Ecological Modelling, 1998, 113, 179-199.	1.2	43
146	Title is missing!. Pirineos, 1996, 147-148, 145-172.	0.6	28
147	Soil Carbon and Nitrogen Turnover at and below the Elevational Treeline in Northern Fennoscandia. Arctic and Alpine Research, 1991, 23, 279.	1.3	19