Otmar Urban

List of Publications by Year
in descending order

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129 papers	4,408 citations	117625 34 h-index	128289 60 g-index
130 all docs	130 docs citations	130 times ranked	5585 citing authors

#	Article	IF	Citations
1	Differences in pigment composition, photosynthetic rates and chlorophyll fluorescence images of sun and shade leaves of four tree species. Plant Physiology and Biochemistry, 2007, 45, 577-588.	5.8	261
2	Root exudate metabolomes change under drought and show limited capacity for recovery. Scientific Reports, 2018, 8, 12696.	3.3	231
3	Reâ€interpreting plant morphological responses to <scp>UV</scp>â€<scp>B</scp> radiation. Plant, Cell and Environment, 2015, 38, 856-866.	5.7	222
4	Ecophysiological controls over the net ecosystem exchange of mountain spruce stand. Comparison of the response in direct vs. diffuse solar radiation. Global Change Biology, 2007, 13, 157-168.	9.5	196
5	Recent European drought extremes beyond Common Era background variability. Nature Geoscience, 2021, 14, 190-196.	12.9	183
6	Opposite metabolic responses of shoots and roots to drought. Scientific Reports, 2014, 4, 6829.	3.3	170
7	Physiological Impacts of Elevated CO₂ Concentration Ranging from Molecular to Whole Plant Responses. Photosynthetica, 2003, 41, 9-20.	1.7	129
8	Impact of clear and cloudy sky conditions on the vertical distribution of photosynthetic CO₂ uptake within a spruce canopy. Functional Ecology, 2012, 26, 46-55.	3.6	124
9	Warming differentially influences the effects of drought on stoichiometry and metabolomics in shoots and roots. New Phytologist, 2015, 207, 591-603.	7.3	109
10	Changes of primary and secondary metabolites in barley plants exposed to CdO nanoparticles. Environmental Pollution, 2016, 218, 207-218.	7.5	107
11	Pinus sylvestris as a missing source of nitrous oxide and methane in boreal forest. Scientific Reports, 2016, 6, 23410.	3.3	99
12	Interactive effects of high temperature and drought stress during stem elongation, anthesis and early grain filling on the yield formation and photosynthesis of winter wheat. Field Crops Research, 2018, 221, 182-195.	5.1	98
13	Drought enhances folivory by shifting foliar metabolomes in <scp>Q</scp>uercus ilex trees. New Phytologist, 2014, 202, 874-885.	7.3	81
14	Interactive effects of PAR and UV radiation on the physiology, morphology and leaf optical properties of two barley varieties. Environmental and Experimental Botany, 2012, 75, 52-64.	4.2	73
15	Induction of photosynthesis and importance of limitations during the induction phase in sun and shade leaves of five ecologically contrasting tree species from the temperate zone. Tree Physiology, 2007, 27, 1207-1215.	3.1	70
16	The handbook for standardized field and laboratory measurements in terrestrial climate change experiments and observational studies (ClimEx). Methods in Ecology and Evolution, 2020, 11, 22-37.	5.2	68
17	Ultraviolet and photosynthetically active radiation can both induce photoprotective capacity allowing barley to overcome high radiation stress. Plant Physiology and Biochemistry, 2015, 93, 74-83.	5.8	67
18	Diffuse solar radiation and canopy photosynthesis in a changing environment. Agricultural and Forest Meteorology, 2021, 311, 108684.	4.8	66

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19	Soil [N] modulates soil C cycling in CO₂â€fumigated tree stands: a metaâ€analysis. Plant, Cell and Environment, 2010, 33, 2001-2011.	5.7	65
20	Combined effects of drought and high temperature on photosynthetic characteristics in four winter wheat genotypes. Field Crops Research, 2018, 223, 137-149.	5.1	57
21	Temporal Changes in Ozone Concentrations and Their Impact on Vegetation. Atmosphere, 2021, 12, 82.	2.3	57
22	<scp>C₄</scp> plants use fluctuating light less efficiently than do <scp>C₃</scp> plants: a study of growth, photosynthesis and carbon isotope discrimination. Physiologia Plantarum, 2013, 149, 528-539.	5.2	53
23	Environmental Factors Correlated with the Metabolite Profile of Vitis vinifera cv. Pinot Noir Berry Skins along a European Latitudinal Gradient. Journal of Agricultural and Food Chemistry, 2016, 64, 8722-8734.	5.2	52
24	Combining soil and treeâ€stem flux measurements and soil gas profiles to understand CH₄ pathways in Fagus sylvatica forests. Journal of Plant Nutrition and Soil Science, 2018, 181, 31-35.	1.9	51
25	Distinct Morphological, Physiological, and Biochemical Responses to Light Quality in Barley Leaves and Roots. Frontiers in Plant Science, 2019, 10, 1026.	3.6	50
26	Response of green reflectance continuum removal index to the xanthophyll de-epoxidation cycle in Norway spruce needles. Journal of Experimental Botany, 2013, 64, 1817-1827.	4.8	47
27	Diurnal dynamics of photosynthetic parameters of Norway spruce trees cultivated under ambient and elevated CO2: the reasons of midday depression in CO2 assimilation. Plant Science, 2005, 168, 1371-1381.	3.6	45
28	Glass Domes with Adjustable Windows: A Novel Technique for Exposing Juvenile Forest Stands to Elevated CO₂ Concentration. Photosynthetica, 2001, 39, 395-401.	1.7	43
29	Comparison of photosynthetic induction and transient limitations during the induction phase in young and mature leaves from three poplar clones. Tree Physiology, 2008, 28, 1189-1197.	3.1	43
30	Reflectance continuum removal spectral index tracking the xanthophyll cycle photoprotective reactions in Norway spruce needles. Functional Plant Biology, 2012, 39, 987.	2.1	39
31	Impact of elevated CO2 concentration on dynamics of leaf photosynthesis in Fagus sylvatica is modulated by sky conditions. Environmental Pollution, 2014, 185, 271-280.	7.5	39
32	Ecometabolomics for a Better Understanding of Plant Responses and Acclimation to Abiotic Factors Linked to Global Change. Metabolites, 2020, 10, 239.	2.9	39
33	Potential of Photochemical Reflectance Index for Indicating Photochemistry and Light Use Efficiency in Leaves of European Beech and Norway Spruce Trees. Remote Sensing, 2018, 10, 1202.	4.0	38
34	Seasonal dynamics of stem N2O exchange follow the physiological activity of boreal trees. Nature Communications, 2019, 10, 4989.	12.8	36
35	Effect of season, needle age and elevated CO2 concentration on photosynthesis and Rubisco acclimation in Picea abies. Plant Physiology and Biochemistry, 2012, 58, 135-141.	5.8	35
36	Morphological, biochemical and physiological traits of upper and lower canopy leaves of European beech tend to converge with increasing altitude. Tree Physiology, 2015, 35, 47-60.	3.1	35

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37	Editorial: Interactive effects of UV-B radiation in a complex environment. Plant Physiology and Biochemistry, 2019, 134, 1-8.	5.8	35
38	Ozone flux over a Norway spruce forest and correlation with net ecosystem production. Environmental Pollution, 2011, 159, 1024-1034.	7.5	34
39	Environmental plasticity of Pinot noir grapevine leaves: A transâ€European study of morphological and biochemical changes along a 1,500â€km latitudinal climatic gradient. Plant, Cell and Environment, 2017, 40, 2790-2805.	5.7	34
40	Restoration of Vegetation in Relation to Soil Properties of Spoil Heap Heavily Contaminated with Heavy Metals. Water, Air, and Soil Pollution, 2018, 229, 392.	2.4	34
41	Fluxes of biogenic volatile organic compounds above temperate Norway spruce forest of the Czech Republic. Agricultural and Forest Meteorology, 2017, 232, 500-513.	4.8	31
42	Topsoil depth substantially influences the responses to drought of the foliar metabolomes of Mediterranean forests. Perspectives in Plant Ecology, Evolution and Systematics, 2016, 21, 41-54.	2.7	30
43	Characterization of acclimation of Hordeum vulgare to high irradiation based on different responses of photosynthetic activity and pigment composition. Photosynthesis Research, 2002, 72, 71-83.	2.9	29
44	Annual variation of the steady-state chlorophyll fluorescence emission of evergreen plants in temperate zone. Functional Plant Biology, 2008, 35, 63.	2.1	29
45	Photosynthetic induction in broadleaved Fagus sylvatica and coniferous Picea abies cultivated under ambient and elevated CO2 concentrations. Plant Science, 2009, 177, 123-130.	3.6	29
46	Chlorophyll a fluorescence, under half of the adaptive growth-irradiance, for high-throughput sensing of leaf-water deficit in Arabidopsis thaliana accessions. Plant Methods, 2016, 12, 46.	4.3	26
47	Low temperature induced modulation of photosynthetic induction in non-acclimated and cold-acclimated Arabidopsis thaliana: chlorophyll a fluorescence and gas-exchange measurements. Photosynthesis Research, 2019, 139, 123-143.	2.9	25
48	Photosynthesis and growth response of Calamagrostis arundinacea and C. villosa to enhanced UV-B radiation. Photosynthetica, 2006, 44, 215-220.	1.7	24
49	Does long-term cultivation of saplings under elevated CO2 concentration influence their photosynthetic response to temperature?. Annals of Botany, 2015, 116, 929-939.	2.9	24
50	Acclimation of Two Distinct Plant Species, Spring Barley and Norway Spruce, to Combined Effect of Various Irradiance and CO₂ Concentration During Cultivation in Controlled Environment. Photosynthetica, 2003, 41, 513-523.	1.7	22
51	Ozone flux and ozone deposition in a mountain spruce forest are modulated by sky conditions. Science of the Total Environment, 2019, 672, 296-304.	8.0	22
52	Chloroplastic Carbon Dioxide Concentration in Norway Spruce (Picea Abies [L.] Karst.) needles relates to the position within the crown. Photosynthetica, 1998, 35, 561-571.	1.7	21
53	Seasonal Changes of Selected Parameters of CO2 Fixation Biochemistry of Norway Spruce Under the Long-Term Impact of Elevated CO2. Photosynthetica, 1999, 36, 533-545.	1.7	21
54	No Age Trends in Oak Stable Isotopes. Paleoceanography and Paleoclimatology, 2020, 35, e2019PA003831.	2.9	21

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55	A metaâ€analysis of the interactive effects of UV and drought on plants. Plant, Cell and Environment, 2022, 45, 41-54.	5.7	21
56	Close and distant: Contrasting the metabolism of two closely related subspecies of Scots pine under the effects of folivory and summer drought. Ecology and Evolution, 2017, 7, 8976-8988.	1.9	20
57	Comparison of different approaches of radiation use efficiency of biomass formation estimation in Mountain Norway spruce. Trees - Structure and Function, 2017, 31, 325-337.	1.9	20
58	Blue radiation stimulates photosynthetic induction in Fagus sylvatica L.. Photosynthetica, 2009, 47, .	1.7	18
59	Similar local, but different systemic, metabolomic responses of closely related pine subspecies to folivory by caterpillars of the processionary moth. Plant Biology, 2016, 18, 484-494.	3.8	18
60	Shoot-level terpenoids emission in Norway spruce (Picea abies) under natural field and manipulated laboratory conditions. Plant Physiology and Biochemistry, 2016, 108, 530-538.	5.8	18
61	Application of organic carbon affects mineral nitrogen uptake by winter wheat and leaching in subsoil: Proximal sensing as a tool for agronomic practice. Science of the Total Environment, 2020, 717, 137058.	8.0	18
62	A millennium-long â€˜Blue Ringâ€™ chronology from the Spanish Pyrenees reveals severe ephemeral summer cooling after volcanic eruptions. Environmental Research Letters, 2020, 15, 124016.	5.2	18
63	Photosynthetic Assimilation of Sun versus Shade Norway Spruce [Picea abies (L.) Karst] Needles Under the Long-Term Impact of Elevated CO₂ Concentration. Photosynthetica, 2002, 40, 259-267.	1.7	17
64	Cryptogamic stem covers may contribute to nitrous oxide consumption by mature beech trees. Scientific Reports, 2017, 7, 13243.	3.3	17
65	Induction of phenolic compounds by UV and PAR is modulated by leaf ontogeny and barley genotype. Plant Physiology and Biochemistry, 2019, 134, 81-93.	5.8	17
66	Different â€œmetabolomic nichesâ€•of the highly diverse tree species of the French Guiana rainforests. Scientific Reports, 2020, 10, 6937.	3.3	16
67	Prediction of ozone effects on net ecosystem production of Norway spruce forest. IForest, 2018, 11, 743-750.	1.4	16
68	Response of Photosynthetic Apparatus of Spring Barley (Hordeum vulgare L.) to Combined Effect of Elevated CO₂ Concentration and Different Growth Irradiance. Photosynthetica, 2003, 41, 209-219.	1.7	15
69	The impact of long-term CO2 enrichment on sun and shade needles of Norway spruce (Picea abies): Photosynthetic performance, needle anatomy and phenolics accumulation. Plant Science, 2012, 188-189, 60-70.	3.6	15
70	Ultraviolet radiation research: from the field to the laboratory and back. Plant, Cell and Environment, 2015, 38, 853-855.	5.7	15
71	Are the metabolomic responses to folivory of closely related plant species linked to macroevolutionary and plantâ€“folivore coevolutionary processes?. Ecology and Evolution, 2016, 6, 4372-4386.	1.9	15
72	Correction of PRI for carotenoid pigment pools improves photosynthesis estimation across different irradiance and temperature conditions. Remote Sensing of Environment, 2020, 244, 111834.	11.0	15

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73	Temperature dependences of carbon assimilation processes in four dominant species from mountain grassland ecosystem. Photosynthetica, 2007, 45, 392-399.	1.7	14
74	Effect of Elevated Carbon Dioxide Concentration on Carbon Assimilation under Fluctuating Light. Journal of Environmental Quality, 2012, 41, 1931-1938.	2.0	14
75	Different Responses of Norway Spruce Needles from Shaded and Exposed Crown Layers to the Prolonged Exposure to Elevated CO₂ Studied by Various Chlorophyll a Fluorescence Techniques. Photosynthetica, 2001, 39, 369-376.	1.7	13
76	Near-distance imaging spectroscopy investigating chlorophyll fluorescence and photosynthetic activity of grassland in the daily course. Functional Plant Biology, 2009, 36, 1006.	2.1	13
77	Ultraviolet radiation modulates C:N stoichiometry and biomass allocation in Fagus sylvatica saplings cultivated under elevated CO2 concentration. Plant Physiology and Biochemistry, 2019, 134, 103-112.	5.8	13
78	Interactive effects of ultraviolet radiation and elevated CO2 concentration on photosynthetic characteristics of European beech saplings during the vegetation season. Plant Physiology and Biochemistry, 2019, 134, 20-30.	5.8	13
79	The Influence of Ozone on Net Ecosystem Production of a Ryegrassâ€“Clover Mixture under Field Conditions. Atmosphere, 2021, 12, 1629.	2.3	13
80	Control Mechanisms of Photosynthetic Capacity Under Elevated CO₂ Concentration: Evidence from Three Experiments with Norway Spruce Trees. Photosynthetica, 2003, 41, 69-75.	1.7	12
81	Impact of Soil Warming on the Plant Metabolome of Icelandic Grasslands. Metabolites, 2017, 7, 44.	2.9	12
82	The impact of drought on total ozone flux in a mountain Norway spruce forest. Journal of Forest Science, 2020, 66, 280-278.	1.1	12
83	Ecometabolomics of plantâ€“herbivore and plantâ€“fungi interactions: a synthesis study. Ecosphere, 2021, 12, e03736.	2.2	12
84	Long-term effect of elevated CO₂ on spatial differentiation of ribulose-1,5-bisphosphate carboxylase/oxygenase activity in Norway spruce canopy. Photosynthetica, 2005, 43, 211-216.	1.7	11
85	The influence of climate change on stomatal ozone flux to a mountain Norway spruce forest. Environmental Pollution, 2012, 169, 267-273.	7.5	11
86	Distinct growth and physiological responses of Arabidopsis thaliana natural accessions to drought stress and their detection using spectral reflectance and thermal imaging. Functional Plant Biology, 2017, 44, 312.	2.1	11
87	Light and CO2 Modulate the Accumulation and Localization of Phenolic Compounds in Barley Leaves. Antioxidants, 2021, 10, 385.	5.1	11
88	Long-term fertilization determines different metabolomic profiles and responses in saplings of three rainforest tree species with different adult canopy position. PLoS ONE, 2017, 12, e0177030.	2.5	11
89	Acclimation of Norway spruce photosynthetic apparatus to the combined effect of high irradiance and temperature. Journal of Plant Physiology, 2010, 167, 597-605.	3.5	10
90	We Are What We Eat: A Stoichiometric and Ecometabolomic Study of Caterpillars Feeding on Two Pine Subspecies of Pinus sylvestris. International Journal of Molecular Sciences, 2019, 20, 59.	4.1	10

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91	Could Global Intensification of Nitrogen Fertilisation Increase Immunogenic Proteins and Favour the Spread of Coeliac Pathology?. Foods, 2020, 9, 1602.	4.3	9
92	Dissolved and gaseous nitrogen losses in forests controlled by soil nutrient stoichiometry. Environmental Research Letters, 2021, 16, 064025.	5.2	9
93	Application of Raman spectroscopy to analyse lignin/cellulose ratio in Norway spruce tree rings. Beskydy, 2017, 10, 41-48.	0.2	9
94	Combining NDVI, PRI and the quantum yield of solar-induced fluorescence improves estimations of carbon fluxes in deciduous and evergreen forests. Science of the Total Environment, 2022, 829, 154681.	8.0	9
95	Single-Turnover Flashes to Saturate the Q_A Reduction in a Leaf were Generated by the Light-Emitting Diodes from a Double Modulation Kinetic Chlorophyll Fluorometer. Photosynthetica, 1999, 37, 201-207.	1.7	8
96	Variability of catechin and 4-hydroxyacetophenone distribution in Norway spruce needles in relation to their position, age, and growing conditions. Environmental Pollution, 2004, 131, 55-59.	7.5	8
97	Temperature alters susceptibility of Picea abies seedlings to airborne pollutants: The case of CdO nanoparticles. Environmental Pollution, 2019, 253, 646-654.	7.5	8
98	Implications of mistletoe parasitism for the host metabolome: A new plant identity in the forest canopy. Plant, Cell and Environment, 2021, 44, 3655-3666.	5.7	8
99	Interactive Effect of Elevated CO2 and Reduced Summer Precipitation on Photosynthesis is Species-Specific: The Case Study with Soil-Planted Norway Spruce and Sessile Oak in a Mountainous Forest Plot. Forests, 2021, 12, 42.	2.1	8
100	A meta-analysis of the effects of UV radiation on the plant carotenoid pool. Plant Physiology and Biochemistry, 2022, 183, 36-45.	5.8	8
101	Chlorophyll a Fluorescence Response of Norway Spruce Needles to the Long-Term Effect of Elevated CO₂ in Relation to Their Position Within the Canopy. Photosynthetica, 2001, 39, 437-445.	1.7	7
102	Enhanced thermal stability of the thylakoid membranes from spruce. A comparison with selected angiosperms. Photosynthesis Research, 2016, 130, 357-371.	2.9	7
103	Coping with iron limitation: a metabolomic study of SynechocystisÂsp. PCC 6803. Acta Physiologiae Plantarum, 2018, 40, 1.	2.1	7
104	31P-NMR Metabolomics Revealed Species-Specific Use of Phosphorous in Trees of a French Guiana Rainforest. Molecules, 2020, 25, 3960.	3.8	7
105	Non-pooled oak (Quercus spp.) stable isotopes reveal enhanced climate sensitivity compared to ring widths. Climate Research, 2021, 83, 27-41.	1.1	7
106	The dendroclimatic value of oak stable isotopes. Dendrochronologia, 2021, 65, 125804.	2.2	7
107	Stable Isotopes in Tree Rings of Pinus heldreichii Can Indicate Climate Variability over the Eastern Mediterranean Region. Forests, 2021, 12, 350.	2.1	7
108	Interactive effects of nitrogen, UV and PAR on barley morphology and biochemistry are associated with the leaf C:N balance. Plant Physiology and Biochemistry, 2022, 172, 111-124.	5.8	7

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109	Effect of Norway Spruce Planting Density on Shoot Morphological Parameters. Biologia Plantarum, 2004, 48, 137-139.	1.9	6
110	Distinct seasonal dynamics of responses to elevated CO 2 in two understorey grass species differing in shadeâ€tolerance. Ecology and Evolution, 2019, 9, 13663-13677.	1.9	6
111	The transgenerational effects of solar short-UV radiation differed in two accessions of Vicia faba L. from contrasting UV environments. Journal of Plant Physiology, 2020, 248, 153145.	3.5	6
112	Diurnal regulation of ribulose-1,5-bisphosphate carboxylase/oxygenase activity and its content in Norway spruce needles. Photosynthetica, 2007, 45, 334-339.	1.7	5
113	Disentangling climate from soil nutrient effects on plant biomass production using a multispecies phytometer. Ecosphere, 2021, 12, e03719.	2.2	5
114	Improving Nitrogen Status Estimation in Malting Barley Based on Hyperspectral Reflectance and Artificial Neural Networks. Agronomy, 2021, 11, 2592.	3.0	5
115	Changes in forest nitrogen cycling across deposition gradient revealed by Î´15N in tree rings. Environmental Pollution, 2022, 304, 119104.	7.5	5
116	Combined Effect of Altitude, Season and Light on the Accumulation of Extractable Terpenes in Norway Spruce Needles. Forests, 2021, 12, 1737.	2.1	5
117	Wet effluent diffusion denuder: The tool for determination of monoterpenes in forest. Talanta, 2016, 153, 260-267.	5.5	4
118	Warming affects soil metabolome: The case study of Icelandic grasslands. European Journal of Soil Biology, 2021, 105, 103317.	3.2	4
119	Photosynthetic response of mountain grassland species to drought stress is affected by UV-induced accumulation of epidermal flavonols. Beskydy, 2016, 9, 31-40.	0.2	4
120	Barley Genotypes Vary in Stomatal Responsiveness to Light and CO2 Conditions. Plants, 2021, 10, 2533.	3.5	4
121	Seasonal changes of Rubisco content and activity in Fagus sylvatica and Picea abies affected by elevated CO2 concentration. Chemical Papers, 2012, 66, .	2.2	3
122	Relation of Chlorophyll Fluorescence Sensitive Reflectance Ratios to Carbon Flux Measurements of Montanne Grassland and Norway Spruce Forest Ecosystems in the Temperate Zone. Scientific World Journal, The, 2012, 2012, 1-13.	2.1	2
123	Environmental Effects on Normalized Gross Primary Productivity in Beech and Norway Spruce Forests. Atmosphere, 2021, 12, 1128.	2.3	2
124	Preliminary estimation of bryophyte biomass and carbon pool from three contrasting different vegetation types. Cereal Research Communications, 2005, 33, 267-270.	1.6	2
125	Tree Species and Epiphyte Taxa Determine the â€œMetabolomic nicheâ€•of Canopy Suspended Soils in a Species-Rich Lowland Tropical Rainforest. Metabolites, 2021, 11, 718.	2.9	2
126	Effect of the relative time of emergence on the growth allometry of Galium aparine in competition with Triticum aestivum. Weed Biology and Management, 2014, 14, 262-270.	1.4	1

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127	Metabolome-Wide, Phylogenetically Controlled Comparison Indicates Higher Phenolic Diversity in Tropical Tree Species. Plants, 2021, 10, 554.	3.5	1
128	Genotype and soil substrate effects on the wood quality of poplar grown in a reclaimed lignite-mining area. Journal of Environmental Management, 2021, 285, 112146.	7.8	1
129	Measuring root exudate metabolites in holm oak (Quercus ilex) under drought and recovery. , 2022, , 17-28.		0