

# Murray R Badger

## List of Publications by Year in descending order

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59  
papers

7,308  
citations

87886

38  
h-index

133244

59  
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60  
all docs

60  
docs citations

60  
times ranked

5263  
citing authors

#	ARTICLE	IF	CITATIONS
1	CO <sub>2</sub> concentrating mechanisms in cyanobacteria: molecular components, their diversity and evolution. <i>Journal of Experimental Botany</i> , 2003, 54, 609-622.	4.8	679
2	Internal Inorganic Carbon Pool of <i>Chlamydomonas reinhardtii</i> . <i>Plant Physiology</i> , 1980, 66, 407-413.	4.8	498
3	The diversity and coevolution of Rubisco, plastids, pyrenoids, and chloroplast-based CO <sub>2</sub> -concentrating mechanisms in algae. <i>Canadian Journal of Botany</i> , 1998, 76, 1052-1071.	1.1	449
4	Functions, Compositions, and Evolution of the Two Types of Carboxysomes: Polyhedral Microcompartments That Facilitate CO <sub>2</sub> Fixation in Cyanobacteria and Some Proteobacteria. <i>Microbiology and Molecular Biology Reviews</i> , 2013, 77, 357-379.	6.6	346
5	Electron flow to oxygen in higher plants and algae: rates and control of direct photoreduction (Mehler reaction) and rubisco oxygenase. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2000, 355, 1433-1446.	4.0	344
6	Evolution and diversity of CO <sub>2</sub> concentrating mechanisms in cyanobacteria. <i>Functional Plant Biology</i> , 2002, 29, 161.	2.1	288
7	The environmental plasticity and ecological genomics of the cyanobacterial CO <sub>2</sub> concentrating mechanism. <i>Journal of Experimental Botany</i> , 2006, 57, 249-265.	4.8	276
8	The CO <sub>2</sub> concentrating mechanism in cyanobacteria and microalgae. <i>Physiologia Plantarum</i> , 1992, 84, 606-615.	5.2	243
9	The relationship between steady-state gas exchange of bean leaves and the levels of carbon-reduction-cycle intermediates. <i>Planta</i> , 1984, 160, 305-313.	3.2	200
10	Carboxysome encapsulation of the CO <sub>2</sub> -fixing enzyme Rubisco in tobacco chloroplasts. <i>Nature Communications</i> , 2018, 9, 3570.	12.8	196
11	Impairment of the Photorespiratory Pathway Accelerates Photoinhibition of Photosystem II by Suppression of Repair But Not Acceleration of Damage Processes in Arabidopsis. <i>Plant Physiology</i> , 2007, 144, 487-494.	4.8	187
12	Artificial remodelling of alternative electron flow by flavodiiron proteins in Arabidopsis. <i>Nature Plants</i> , 2016, 2, 16012.	9.3	182
13	Novel gene products associated with NdhD3/D4-containing NDH-1 complexes are involved in photosynthetic CO <sub>2</sub> hydration in the cyanobacterium, <i>Synechococcus</i> sp. PCC7942. <i>Molecular Microbiology</i> , 2002, 43, 425-435.	2.5	175
14	Oxygen Exchange in Leaves in the Light. <i>Plant Physiology</i> , 1980, 66, 302-307.	4.8	173
15	Analysis of Carboxysomes from <i>Synechococcus</i> PCC7942 Reveals Multiple Rubisco Complexes with Carboxysomal Proteins CcmM and CcaA. <i>Journal of Biological Chemistry</i> , 2007, 282, 29323-29335.	3.4	173
16	The functioning of the CO <sub>2</sub> concentrating mechanism in several cyanobacterial strains: a review of general physiological characteristics, genes, proteins, and recent advances. <i>Canadian Journal of Botany</i> , 1998, 76, 973-1002.	1.1	171
17	Photosynthetic electron sinks in transgenic tobacco with reduced amounts of Rubisco: little evidence for significant Mehler reaction. <i>Journal of Experimental Botany</i> , 2000, 51, 357-368.	4.8	161
18	The roles of carbonic anhydrases in photosynthetic CO <sub>2</sub> concentrating mechanisms. <i>Photosynthesis Research</i> , 2003, 77, 83-94.	2.9	150

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19	Modes of active inorganic carbon uptake in the cyanobacterium, <i>Synechococcus</i> sp. PCC7942. <i>Functional Plant Biology</i> , 2002, 29, 131.	2.1	145
20	Kinetic properties of ribulose 1,5-bisphosphate carboxylase/oxygenase from <i>Anabaena variabilis</i> . <i>Archives of Biochemistry and Biophysics</i> , 1980, 201, 247-254.	3.0	136
21	Specific reduction of chloroplast glyceraldehyde-3-phosphate dehydrogenase activity by antisense RNA reduces CO <sub>2</sub> assimilation via a reduction in ribulose bisphosphate regeneration in transgenic tobacco plants. <i>Planta</i> , 1995, 195, 369-378.	3.2	135
22	Analysis of the Relative Increase in Photosynthetic O <sub>2</sub> Uptake When Photosynthesis in Grapevine Leaves Is Inhibited following Low Night Temperatures and/or Water Stress. <i>Plant Physiology</i> , 1999, 121, 675-684.	4.8	130
23	Evidence for an Inorganic Carbon-Concentrating Mechanism in the Symbiotic Dinoflagellate <i>Symbiodinium</i> sp.. <i>Plant Physiology</i> , 1999, 121, 1247-1255.	4.8	119
24	Variations in Km(CO <sub>2</sub> ) of Ribulose-1,5-bisphosphate Carboxylase among Grasses. <i>Plant Physiology</i> , 1980, 66, 1110-1112.	4.8	115
25	Effects of water stress on photosynthetic electron transport, photophosphorylation, and metabolite levels of <i>Xanthium strumarium</i> mesophyll cells. <i>Planta</i> , 1982, 156, 199-206.	3.2	106
26	The involvement of NAD(P)H dehydrogenase subunits, NdhD3 and NdhF3, in high-affinity CO <sub>2</sub> uptake in <i>Synechococcus</i> sp. PCC7002 gives evidence for multiple NDH-1 complexes with specific roles in cyanobacteria. <i>Molecular Microbiology</i> , 1999, 32, 1305-1315.	2.5	102
27	A COMPARISON OF PHOTOSYNTHETIC ELECTRON TRANSPORT RATES IN MACROALGAE MEASURED BY PULSE AMPLITUDE MODULATED CHLOROPHYLL FLUOROMETRY AND MASS SPECTROMETRY. <i>Journal of Phycology</i> , 2001, 37, 756-767.	2.3	102
28	TraitCapture: genomic and environment modelling of plant phenomic data. <i>Current Opinion in Plant Biology</i> , 2014, 18, 73-79.	7.1	101
29	Increased heat sensitivity of photosynthesis in tobacco plants with reduced Rubisco activase. <i>Photosynthesis Research</i> , 2001, 67, 147-156.	2.9	92
30	Comparing the in Vivo Function of <sup>13</sup> C-Carboxysomes and <sup>12</sup> C-Carboxysomes in Two Model Cyanobacteria. <i>Plant Physiology</i> , 2014, 165, 398-411.	4.8	81
31	Dinoflagellate symbioses: strategies and adaptations for the acquisition and fixation of inorganic carbon. <i>Functional Plant Biology</i> , 2002, 29, 309.	2.1	70
32	Gymnosperms Have Increased Capacity for Electron Leakage to Oxygen (Mehler and PTOX reactions) in Photosynthesis Compared with Angiosperms. <i>Plant and Cell Physiology</i> , 2013, 54, 1152-1163.	3.1	69
33	Characterisation of inorganic carbon fluxes, carbonic anhydrase(s) and ribulose-1,5-bisphosphate carboxylase-oxygenase in the green unicellular alga <i>Coccomyxa</i> . <i>Planta</i> , 1995, 197, 352.	3.2	59
34	Bile Acid Sodium Symporter BASS6 Can Transport Glycolate and Is Involved in Photorespiratory Metabolism in <i>Arabidopsis thaliana</i> . <i>Plant Cell</i> , 2017, 29, 808-823.	6.6	56
35	Redirecting the Cyanobacterial Bicarbonate Transporters BicA and SbtA to the Chloroplast Envelope: Soluble and Membrane Cargos Need Different Chloroplast Targeting Signals in Plants. <i>Frontiers in Plant Science</i> , 2016, 7, 185.	3.6	54
36	Expression of Tobacco Carbonic Anhydrase in the C <sub>4</sub> Dicot <i>Flaveria bidentis</i> Leads to Increased Leakiness of the Bundle Sheath and a Defective CO <sub>2</sub> -Concentrating Mechanism. <i>Plant Physiology</i> , 1998, 117, 1071-1081.	4.8	49

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37	Characterisation of carbon dioxide and bicarbonate transport during steady-state photosynthesis in the marine cyanobacterium <i>Synechococcus</i> strain PCC7002. <i>Planta</i> , 1995, 197, 597.	3.2	47
38	Photoreduction of Oxygen in Mesophyll Chloroplasts of C <sub>4</sub> Plants. <i>Plant Physiology</i> , 1983, 73, 1038-1041.	4.8	43
39	Mitochondrial protein expression in tomato fruit during on-vine ripening and cold storage. <i>Functional Plant Biology</i> , 2002, 29, 827.	2.1	43
40	Measurement of (carbon) kinetic isotope effect by Rayleigh fractionation using membrane inlet mass spectrometry for CO <sub>2</sub> -consuming reactions. <i>Functional Plant Biology</i> , 2006, 33, 1115.	2.1	40
41	Estimation of the steady-state cyclic electron flux around PSI in spinach leaf discs in white light, CO <sub>2</sub> -enriched air and other varied conditions. <i>Functional Plant Biology</i> , 2013, 40, 1018.	2.1	40
42	Photobiont-related differences in carbon acquisition among green-algal lichens. <i>Planta</i> , 1994, 195, 70.	3.2	38
43	Variability of the pyrenoid-based CO <sub>2</sub> concentrating mechanism in hornworts (Anthocerotophyta). <i>Functional Plant Biology</i> , 2002, 29, 407.	2.1	38
44	Rubisco proton production can drive the elevation of CO <sub>2</sub> within condensates and carboxysomes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	38
45	Partially dissecting the steady-state electron fluxes in Photosystem I in wild-type and <i>pgr5</i> and <i>ndh</i> mutants of <i>Arabidopsis</i> . <i>Frontiers in Plant Science</i> , 2015, 6, 758.	3.6	34
46	Chlorophyll fluorescence screening of <i>Arabidopsis thaliana</i> for CO <sub>2</sub> sensitive photorespiration and photoinhibition mutants. <i>Functional Plant Biology</i> , 2009, 36, 867.	2.1	31
47	EFFECTS OF MODERATE HEAT STRESS AND DISSOLVED INORGANIC CARBON CONCENTRATION ON PHOTOSYNTHESIS AND RESPIRATION OF <i>SYMBIODINIUM</i> SP. (DINOPHYCEAE) IN CULTURE AND IN SYMBIOSIS. <i>Journal of Phycology</i> , 2009, 45, 357-365.	2.3	30
48	Molecular weight and quaternary structure of ribulose biphosphate carboxylase from the cyanobacterium, <i>Synechococcus</i> sp.. <i>Archives of Microbiology</i> , 1981, 130, 344-348.	2.2	28
49	Measuring CO <sub>2</sub> and HCO <sub>3</sub> <sup>-</sup> permeabilities of isolated chloroplasts using a MIMS-180 approach. <i>Journal of Experimental Botany</i> , 2017, 68, 3915-3924.	4.8	28
50	Advances in understanding how aquatic photosynthetic organisms utilize sources of dissolved inorganic carbon for CO <sub>2</sub> fixation. <i>Functional Plant Biology</i> , 2002, 29, 117.	2.1	27
51	Selection and analysis of mutants of the CO <sub>2</sub> -concentrating mechanism in cyanobacteria. <i>Canadian Journal of Botany</i> , 1991, 69, 974-983.	1.1	26
52	A mutation in the purine biosynthetic enzyme ATASE2 impacts high light signalling and acclimation responses in green and chlorotic sectors of <i>Arabidopsis</i> leaves. <i>Functional Plant Biology</i> , 2011, 38, 401.	2.1	26
53	PsaE- and NdhF-mediated electron transport affect bicarbonate transport rather than carbon dioxide uptake in the cyanobacterium <i>Synechococcus</i> sp. PCC7002. <i>Planta</i> , 1997, 201, 36-42.	3.2	25
54	D <sub>2</sub> O Solvent Isotope Effects Suggest Uniform Energy Barriers in Ribulose-1,5-bisphosphate Carboxylase/Oxygenase Catalysis. <i>Biochemistry</i> , 2013, 52, 869-877.	2.5	25

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55	PhenoMeter: A Metabolome Database Search Tool Using Statistical Similarity Matching of Metabolic Phenotypes for High-Confidence Detection of Functional Links. <i>Frontiers in Bioengineering and Biotechnology</i> , 2015, 3, 106.	4.1	22
56	Cyclic electron flow and light partitioning between the two photosystems in leaves of plants with different functional types. <i>Photosynthesis Research</i> , 2019, 142, 321-334.	2.9	20
57	Partially Dissecting Electron Fluxes in Both Photosystems in Spinach Leaf Disks during Photosynthetic Induction. <i>Plant and Cell Physiology</i> , 2019, 60, 2206-2219.	3.1	18
58	Carbonic anhydrase(s) associated with lichens: in vivo activities, possible locations and putative roles. <i>New Phytologist</i> , 1996, 132, 627-639.	7.3	17
59	Mehler reaction plays a role in C3 and C4 photosynthesis under shade and low CO2. <i>Photosynthesis Research</i> , 2021, 149, 171-185.	2.9	8