Rowan F Sage

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

109 12,111 129 57 h-index g-index citations papers 14,068 6.91 6.5 152 L-index avg, IF ext. citations ext. papers

#	Paper	IF	Citations
129	The crucial roles of mitochondria in supporting C photosynthesis. New Phytologist, 2021,	9.8	2
128	Russ Monson and the evolution of C photosynthesis. <i>Oecologia</i> , 2021 , 197, 823-840	2.9	1
127	Elevated efficiency of C3 photosynthesis in bamboo grasses: A possible consequence of enhanced refixation of photorespired CO2. <i>GCB Bioenergy</i> , 2021 , 13, 941-954	5.6	
126	Chapter 8 Terrestrial CO2-Concentrating Mechanisms in a High CO2 World. <i>Advances in Photosynthesis and Respiration</i> , 2021 , 193-250	1.7	O
125	The coordination of major events in C photosynthesis evolution in the genus Flaveria. <i>Scientific Reports</i> , 2021 , 11, 15618	4.9	2
124	The Evolutionary Origin of C Photosynthesis in the Grass Subtribe Neurachninae. <i>Plant Physiology</i> , 2020 , 182, 566-583	6.6	6
123	The Greening of the Sahara: Past Changes and Future Implications. <i>One Earth</i> , 2020 , 2, 235-250	8.1	39
122	Global change biology: A primer. <i>Global Change Biology</i> , 2020 , 26, 3-30	11.4	59
121	Evolutionary Convergence of C Photosynthesis: A Case Study in the Nyctaginaceae. <i>Frontiers in Plant Science</i> , 2020 , 11, 578739	6.2	2
120	Mind the gap: the evolutionary engagement of the C metabolic cycle in support of net carbon assimilation. <i>Current Opinion in Plant Biology</i> , 2019 , 49, 27-34	9.9	5
119	Facultative crassulacean acid metabolism in a C3-C4 intermediate. <i>Journal of Experimental Botany</i> , 2019 , 70, 6571-6579	7	18
118	Variation in leaf anatomical traits relates to the evolution of C4 photosynthesis in Tribuloideae (Zygophyllaceae). <i>Perspectives in Plant Ecology, Evolution and Systematics</i> , 2019 , 39, 125463	3	2
117	High-yielding rice Takanari has superior photosynthetic response to a commercial rice Koshihikari under fluctuating light. <i>Journal of Experimental Botany</i> , 2019 , 70, 5287-5297	7	20
116	Photosynthetic pathway of grass fossils from the upper Miocene Dove Spring Formation, Mojave Desert, California. <i>Palaeogeography, Palaeoclimatology, Palaeoecology</i> , 2018 , 490, 131-140	2.9	2
115	Some like it hot: the physiological ecology of C plant evolution. <i>Oecologia</i> , 2018 , 187, 941-966	2.9	30
114	Plants increase CO uptake by assimilating nitrogen via the photorespiratory pathway. <i>Nature Plants</i> , 2018 , 4, 46-54	11.5	97
113	Reproductive heat tolerance in a Mojave Desert annual plant, Trianthema portulacastrum. <i>American Journal of Botany</i> , 2018 , 105, 2018-2024	2.7	1

112	Tolerance of subzero winter cold in kudzu (Pueraria montana var. lobata). <i>Oecologia</i> , 2018 , 187, 839-849	92.9	10
111	Leaf photosynthetic rate and mesophyll cell anatomy changes during ontogenesis in backcrossed indica Japonica rice inbred lines. <i>Photosynthesis Research</i> , 2017 , 134, 27-38	3.7	9
110	The sensitivity of photosynthesis to O and CO concentration identifies strong Rubisco control above the thermal optimum. <i>New Phytologist</i> , 2017 , 213, 1036-1051	9.8	61
109	Fine Mapping of , a Quantitative Trait Locus for Flag Leaf Nitrogen Content, Stomatal Conductance and Photosynthesis in Rice. <i>Frontiers in Plant Science</i> , 2017 , 8, 60	6.2	31
108	A portrait of the C4 photosynthetic family on the 50th anniversary of its discovery: species number, evolutionary lineages, and Hall of Fame. <i>Journal of Experimental Botany</i> , 2017 , 68, 4039-4056	7	25
107	Comparative photosynthetic responses in upland and lowland sugarcane cultivars grown in cool and warm conditions. <i>Revista Brasileira De Botanica</i> , 2017 , 40, 829-839	1.2	2
106	Photosynthesis: Mining grasses for a better Rubisco. <i>Nature Plants</i> , 2016 , 2, 16192	11.5	3
105	Why are there no C forests?. <i>Journal of Plant Physiology</i> , 2016 , 203, 55-68	3.6	21
104	Australia lacks stem succulents but is it depauperate in plants with crassulacean acid metabolism (CAM)?. <i>Current Opinion in Plant Biology</i> , 2016 , 31, 109-17	9.9	15
103	Tracking the evolutionary rise of C4 metabolism. <i>Journal of Experimental Botany</i> , 2016 , 67, 2919-22	7	13
102	Mesophyll Chloroplast Investment in C3, C4 and C2 Species of the Genus Flaveria. <i>Plant and Cell Physiology</i> , 2016 , 57, 904-18	4.9	20
101	Evolution of photorespiration from cyanobacteria to land plants, considering protein phylogenies and acquisition of carbon concentrating mechanisms. <i>Journal of Experimental Botany</i> , 2016 , 67, 2963-76	;7	57
100	Manipulating photorespiration to increase plant productivity: recent advances and perspectives for crop improvement. <i>Journal of Experimental Botany</i> , 2016 , 67, 2977-88	7	90
99	Molecular Phylogeny ofPectis(Tageteae, Asteraceae), a C4Genus of the Neotropics, and its Sister GenusPorophyllum. <i>Lundellia</i> , 2016 , 19, 6-38	0.6	4
98	Evolution of RLSB, a nuclear-encoded S1 domain RNA binding protein associated with post-transcriptional regulation of plastid-encoded rbcL mRNA in vascular plants. <i>BMC Evolutionary Biology</i> , 2016 , 16, 141	3	8
97	Improved experimental protocols to evaluate cold tolerance thresholds in Miscanthus and switchgrass rhizomes. <i>GCB Bioenergy</i> , 2016 , 8, 257-268	5.6	18
96	A portrait of the C4 photosynthetic family on the 50th anniversary of its discovery: species number, evolutionary lineages, and Hall of Fame. <i>Journal of Experimental Botany</i> , 2016 , 67, 4039-56	7	89
95	Passive CO2 concentration in higher plants. <i>Current Opinion in Plant Biology</i> , 2016 , 31, 58-65	9.9	13

94	Perspectives for a better understanding of the metabolic integration of photorespiration within a complex plant primary metabolism network. <i>Journal of Experimental Botany</i> , 2016 , 67, 3015-26	7	62
93	C3-C4 intermediacy in grasses: organelle enrichment and distribution, glycine decarboxylase expression, and the rise of C2 photosynthesis. <i>Journal of Experimental Botany</i> , 2016 , 67, 3065-78	7	36
92	The effect of high temperature stress on male and female reproduction in plants. <i>Field Crops Research</i> , 2015 , 182, 30-42	5.5	89
91	C4 bioenergy crops for cool climates, with special emphasis on perennial C4 grasses. <i>Journal of Experimental Botany</i> , 2015 , 66, 4195-212	7	36
90	Plants and bioenergy. Journal of Experimental Botany, 2015, 66, 4093-5	7	4
89	Dissecting Molecular Evolution in the Highly Diverse Plant Clade Caryophyllales Using Transcriptome Sequencing. <i>Molecular Biology and Evolution</i> , 2015 , 32, 2001-14	8.3	149
88	RNA-Seq based phylogeny recapitulates previous phylogeny of the genus Flaveria (Asteraceae) with some modifications. <i>BMC Evolutionary Biology</i> , 2015 , 15, 116	3	28
87	Winter cold-tolerance thresholds in field-grown Miscanthus hybrid rhizomes. <i>Journal of Experimental Botany</i> , 2015 , 66, 4415-25	7	34
86	Photosynthetic diversity meets biodiversity: the C4 plant example. <i>Journal of Plant Physiology</i> , 2015 , 172, 104-19	3.6	46
85	Lineage-specific gene radiations underlie the evolution of novel betalain pigmentation in Caryophyllales. <i>New Phytologist</i> , 2015 , 207, 1170-80	9.8	104
84	A roadmap for research on crassulacean acid metabolism (CAM) to enhance sustainable food and bioenergy production in a hotter, drier world. <i>New Phytologist</i> , 2015 , 207, 491-504	9.8	134
83	Phylogeny of Sesuvioideae (Aizoaceae) Biogeography, leaf anatomy and the evolution of C4 photosynthesis. <i>Perspectives in Plant Ecology, Evolution and Systematics</i> , 2015 , 17, 116-130	3	32
82	Sub-zero cold tolerance of Spartina pectinata (prairie cordgrass) and Miscanthus Igiganteus: candidate bioenergy crops for cool temperate climates. <i>Journal of Experimental Botany</i> , 2015 , 66, 4403-	· <i>1</i> 73	17
81	Evolutionary History of Blepharis (Acanthaceae) and the Origin of C4 Photosynthesis in Section Acanthodium. <i>International Journal of Plant Sciences</i> , 2015 , 176, 770-790	2.6	31
80	Comparative studies of C3 and C4 Atriplex hybrids in the genomics era: physiological assessments. Journal of Experimental Botany, 2014 , 65, 3637-47	7	16
79	Shared origins of a key enzyme during the evolution of C4 and CAM metabolism. <i>Journal of Experimental Botany</i> , 2014 , 65, 3609-21	7	59
78	Mesophyll cells of C4 plants have fewer chloroplasts than those of closely related C3 plants. <i>Plant, Cell and Environment,</i> 2014 , 37, 2587-600	8.4	28
77	Chilling and frost tolerance in Miscanthus and Saccharum genotypes bred for cool temperate climates. <i>Journal of Experimental Botany</i> , 2014 , 65, 3749-58	7	38

(2011-2014)

76	Photosynthetic efficiency and carbon concentration in terrestrial plants: the C4 and CAM solutions. <i>Journal of Experimental Botany</i> , 2014 , 65, 3323-5	7	8
75	Gisekia (Gisekiaceae): phylogenetic relationships, biogeography, and ecophysiology of a poorly known Clineage in the Caryophyllales. <i>American Journal of Botany</i> , 2014 , 101, 499-509	2.7	10
74	From proto-Kranz to C4 Kranz: building the bridge to C4 photosynthesis. <i>Journal of Experimental Botany</i> , 2014 , 65, 3341-56	7	84
73	On the disintegration of Molluginaceae: a new genus and family (Kewa, Kewaceae) segregated from Hypertelis, and placement of Macarthuria in Macarthuriaceae. <i>Phytotaxa</i> , 2014 , 181, 238	0.7	16
72	Stopping the leaks: new insights into C4 photosynthesis at low light. <i>Plant, Cell and Environment</i> , 2014 , 37, 1037-41	8.4	20
71	C3 plants enhance rates of photosynthesis by reassimilating photorespired and respired CO2. <i>Plant, Cell and Environment</i> , 2013 , 36, 200-12	8.4	159
70	Photosynthesis in Sugarcane 2013 , 121-154		12
69	Initial events during the evolution of C4 photosynthesis in C3 species of Flaveria. <i>Plant Physiology</i> , 2013 , 163, 1266-76	6.6	63
68	Evolution of leaf anatomy and photosynthetic pathways in Portulacaceae. <i>American Journal of Botany</i> , 2013 , 100, 2388-402	2.7	36
67	Winter cold tolerance and the geographic range separation of Bromus tectorum and Bromus rubens, two severe invasive species in North America. <i>Global Change Biology</i> , 2012 , 18, 3654-3663	11.4	34
66	Phylogeny and photosynthetic pathway distribution in Anticharis Endl. (Scrophulariaceae). <i>Journal of Experimental Botany</i> , 2012 , 63, 5645-58	7	28
65	Evaluating methods for isolating total RNA and predicting the success of sequencing phylogenetically diverse plant transcriptomes. <i>PLoS ONE</i> , 2012 , 7, e50226	3.7	142
64	Photorespiration and the evolution of C4 photosynthesis. <i>Annual Review of Plant Biology</i> , 2012 , 63, 19-4	43 0.7	455
63	Effects of low atmospheric CO2 and elevated temperature during growth on the gas exchange responses of C3, C3-C4 intermediate, and C4 species from three evolutionary lineages of C4 photosynthesis. <i>Oecologia</i> , 2012 , 169, 341-52	2.9	31
62	Multiple photosynthetic transitions, polyploidy, and lateral gene transfer in the grass subtribe Neurachninae. <i>Journal of Experimental Botany</i> , 2012 , 63, 6297-308	7	40
61	The C(4) plant lineages of planet Earth. <i>Journal of Experimental Botany</i> , 2011 , 62, 3155-69	7	390
60	Water-use efficiency and nitrogen-use efficiency of C(3) -C(4) intermediate species of Flaveria Juss. (Asteraceae). <i>Plant, Cell and Environment</i> , 2011 , 34, 1415-30	8.4	59
59	Characterization of CECIIntermediate species in the genus Heliotropium L. (Boraginaceae): anatomy, ultrastructure and enzyme activity. <i>Plant, Cell and Environment</i> , 2011 , 34, 1723-36	8.4	72

58	Complex evolutionary transitions and the significance of c(3)-c(4) intermediate forms of photosynthesis in Molluginaceae. <i>Evolution; International Journal of Organic Evolution</i> , 2011 , 65, 643-60	3.8	97
57	Exploiting the engine of C(4) photosynthesis. <i>Journal of Experimental Botany</i> , 2011 , 62, 2989-3000	7	179
56	The occurrence of C(2) photosynthesis in Euphorbia subgenus Chamaesyce (Euphorbiaceae). <i>Journal of Experimental Botany</i> , 2011 , 62, 3183-95	7	43
55	C(4) eudicots are not younger than C(4) monocots. <i>Journal of Experimental Botany</i> , 2011 , 62, 3171-81	7	86
54	The origins of C4 grasslands: integrating evolutionary and ecosystem science. <i>Science</i> , 2010 , 328, 587-9	133.3	698
53	The functional anatomy of rice leaves: implications for refixation of photorespiratory CO2 and efforts to engineer C4 photosynthesis into rice. <i>Plant and Cell Physiology</i> , 2009 , 50, 756-72	4.9	147
52	Kudzu [Pueraria montana (Lour.) Merr. Variety lobata]: A new source of carbohydrate for bioethanol production. <i>Biomass and Bioenergy</i> , 2009 , 33, 57-61	5.3	29
51	Elevated growth temperatures reduce the carbon gain of black spruce [Picea mariana (Mill.) B.S.P.]. <i>Global Change Biology</i> , 2008 , 14, 624-636	11.4	130
50	The temperature response of photosynthesis in tobacco with reduced amounts of Rubisco. <i>Plant, Cell and Environment,</i> 2008 , 31, 407-18	8.4	40
49	Thermal acclimation of photosynthesis in black spruce [Picea mariana (Mill.) B.S.P.]. <i>Plant, Cell and Environment</i> , 2008 , 31, 1250-62	8.4	110
48	Photosynthetic pathway influences xylem structure and function in Flaveria (Asteraceae). <i>Plant, Cell and Environment,</i> 2008 , 31, 1363-76	8.4	31
47	Rubisco, Rubisco activase, and global climate change. <i>Journal of Experimental Botany</i> , 2008 , 59, 1581-95	57	180
46	Evolutionary physiology: the extent of C4 and CAM photosynthesis in the genera Anacampseros and Grahamia of the Portulacaceae. <i>Journal of Experimental Botany</i> , 2008 , 59, 1735-42	7	30
45	Functional constraints of CAM leaf anatomy: tight cell packing is associated with increased CAM function across a gradient of CAM expression. <i>Journal of Experimental Botany</i> , 2008 , 59, 1841-50	7	62
44	The temperature response of C(3) and C(4) photosynthesis. <i>Plant, Cell and Environment</i> , 2007 , 30, 1086	-180,6	711
43	The functional significance of C3-C4 intermediate traits in Heliotropium L. (Boraginaceae): gas exchange perspectives. <i>Plant, Cell and Environment</i> , 2007 , 30, 1337-45	8.4	65
42	Cleome, a genus closely related to Arabidopsis, contains species spanning a developmental progression from C(3) to C(4) photosynthesis. <i>Plant Journal</i> , 2007 , 51, 886-96	6.9	96
41	The effect of carbon and nutrient loading during nursery culture on the growth of black spruce seedlings: a six-year field study. <i>New Forests</i> , 2007 , 34, 307-312	2.6	8

(2002-2007)

40	The taxonomic distribution of C4 photosynthesis in Amaranthaceae sensu stricto. <i>American Journal of Botany</i> , 2007 , 94, 1992-2003	2.7	64
39	Temperature response of photosynthesis in transgenic rice transformed with SenseSor SantisenseS rbcS. <i>Plant and Cell Physiology</i> , 2007 , 48, 1472-83	4.9	74
38	Diversity of Kranz anatomy and biochemistry in C4 eudicots. <i>American Journal of Botany</i> , 2007 , 94, 362	- 81 .7	140
37	Leaf anatomy, gas exchange and photosynthetic enzyme activity in Flaveria kochiana. <i>Functional Plant Biology</i> , 2007 , 34, 118-129	2.7	20
36	Is C4 photosynthesis less phenotypically plastic than C3 photosynthesis?. <i>Journal of Experimental Botany</i> , 2006 , 57, 303-17	7	143
35	Interactions between the effects of atmospheric CO2 content and P nutrition on photosynthesis in white lupin (Lupinus albus L.). <i>Plant, Cell and Environment</i> , 2006 , 29, 844-53	8.4	87
34	Functional leaf anatomy of plants with crassulacean acid metabolism. <i>Functional Plant Biology</i> , 2005 , 32, 409-419	2.7	76
33	Estimation of the whole-plant CO2 compensation point of tobacco (Nicotiana tabacum L.). <i>Global Change Biology</i> , 2005 , 11, 050922094851001-???	11.4	8
32	The regulation of Rubisco activity in response to variation in temperature and atmospheric CO2 partial pressure in sweet potato. <i>Plant Physiology</i> , 2005 , 139, 979-90	6.6	129
31	The evolution of C photosynthesis. <i>New Phytologist</i> , 2004 , 161, 341-370	9.8	916
30	Photosynthetic pathway alters hydraulic structure and function in woody plants. <i>Oecologia</i> , 2004 , 139, 214-23	2.9	32
29	Quo vadis C(4)? An ecophysiological perspective on global change and the future of C(4) plants. <i>Photosynthesis Research</i> , 2003 , 77, 209-25	3.7	165
28	C4 grasses in boreal fens: their occurrence in relation to microsite characteristics. <i>Oecologia</i> , 2003 , 137, 330-7	2.9	14
27	C4 photosynthesis at low temperature. A study using transgenic plants with reduced amounts of Rubisco. <i>Plant Physiology</i> , 2003 , 132, 1577-85	6.6	117
26	Microsite characteristics of Muhlenbergia richardsonis (Trin.) Rydb., an alpine C grass from the White Mountains, California. <i>Oecologia</i> , 2002 , 132, 501-508	2.9	37
25	The activation state of Rubisco directly limits photosynthesis at low CO(2) and low O(2) partial pressures. <i>Photosynthesis Research</i> , 2002 , 71, 241-50	3.7	30
24	Variation in the k(cat) of Rubisco in C(3) and C(4) plants and some implications for photosynthetic performance at high and low temperature. <i>Journal of Experimental Botany</i> , 2002 , 53, 609-20	7	240
23	Are crassulacean acid metabolism and C4 photosynthesis incompatible?. Functional Plant Biology, 2002 , 29, 775-785	2.7	51

22	How terrestrial organisms sense, signal, and respond to carbon dioxide. <i>Integrative and Comparative Biology</i> , 2002 , 42, 469-80	2.8	35
21	C(4) photosynthesis in terrestrial plants does not require Kranz anatomy. <i>Trends in Plant Science</i> , 2002 , 7, 283-5	13.1	42
20	The response of the high altitude C(4) grass Muhlenbergia montana (Nutt.) A.S. Hitchc. to long- and short-term chilling. <i>Journal of Experimental Botany</i> , 2001 , 52, 829-38	7	54
19	Effects of low atmospheric CO(2) on plants: more than a thing of the past. <i>Trends in Plant Science</i> , 2001 , 6, 18-24	13.1	150
18	Climate and the distribution of C4 grasses along the Atlantic and Pacific coasts of North America. <i>Canadian Journal of Botany</i> , 2001 , 79, 474-486		17
17	The Physiological Ecology of C4 Photosynthesis. <i>Advances in Photosynthesis and Respiration</i> , 2000 , 497-5	5 3 2⁄7	46
16	The Biogeography of C4 Photosynthesis: Patterns and Controlling Factors 1999 , 313-I		171
15	Effect of atmospheric CO2 enrichment on rubisco content in herbaceous species from high and low altitude. <i>Acta Oecologica</i> , 1997 , 18, 183-192	1.7	9
14	Was low atmospheric CO2 during the Pleistocene a limiting factor for the origin of agriculture?. <i>Global Change Biology</i> , 1995 , 1, 93-106	11.4	153
13	Acclimation of photosynthesis to increasing atmospheric CO2: The gas exchange perspective. <i>Photosynthesis Research</i> , 1994 , 39, 351-68	3.7	516
12	Light-dependent modulation of ribulose-1,5-bisphosphate carboxylase/oxygenase activity in the genus Phaseolus. <i>Photosynthesis Research</i> , 1993 , 35, 219-26	3.7	8
11	A Comparison of Dark Respiration between C(3) and C(4) Plants. <i>Plant Physiology</i> , 1992 , 100, 191-8	6.6	69
10	Climate change and the evolution of C(4) photosynthesis. <i>Trends in Ecology and Evolution</i> , 1991 , 6, 95-9	10.9	426
9	A Model Describing the Regulation of Ribulose-1,5-Bisphosphate Carboxylase, Electron Transport, and Triose Phosphate Use in Response to Light Intensity and CO(2) in C(3) Plants. <i>Plant Physiology</i> , 1990 , 94, 1728-34	6.6	149
8	Regulation of Ribulose-1,5-Bisphosphate Carboxylase Activity in Response to Light Intensity and CO(2) in the C(3) Annuals Chenopodium album L. and Phaseolus vulgaris L. <i>Plant Physiology</i> , 1990 , 94, 1735-42	6.6	100
7	Acclimation of Photosynthesis to Elevated CO(2) in Five C(3) Species. <i>Plant Physiology</i> , 1989 , 89, 590-6	6.6	556
6	The in-vivo response of the ribulose-1,5-bisphosphate carboxylase activation state and the pool sizes of photosynthetic metabolites to elevated CO2 inPhaseolus vulgaris L. <i>Planta</i> , 1988 , 174, 407-16	4.7	130
5	Regulation of photosynthetic electron-transport in Phaseolus vulgaris L., as determined by room-temperature chlorophyll a fluorescence. <i>Planta</i> , 1988 , 176, 415-24	4.7	101

LIST OF PUBLICATIONS

4	The Effect of Temperature on the Occurrence of O(2) and CO(2) Insensitive Photosynthesis in Field Grown Plants. <i>Plant Physiology</i> , 1987 , 84, 658-64	6.6	257
3	The Nitrogen Use Efficiency of C(3) and C(4) Plants: II. Leaf Nitrogen Effects on the Gas Exchange Characteristics of Chenopodium album (L.) and Amaranthus retroflexus (L.). <i>Plant Physiology</i> , 1987 , 84, 959-63	6.6	265
2	The Nitrogen Use Efficiency of C(3) and C(4) Plants : III. Leaf Nitrogen Effects on the Activity of Carboxylating Enzymes in Chenopodium album (L.) and Amaranthus retroflexus (L.). <i>Plant Physiology</i> , 1987 , 85, 355-9	6.6	221
1	The Nitrogen Use Efficiency of C(3) and C(4) Plants: I. Leaf Nitrogen, Growth, and Biomass Partitioning in Chenopodium album (L.) and Amaranthus retroflexus (L.). <i>Plant Physiology</i> , 1987 , 84, 954-	6 .6	152