## Miquel Ribas-Carbo

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Mesophyll conductance to CO <sub>2</sub> : current knowledge and future prospects. Plant, Cell and Environment, 2008, 31, 602-621.	5.7	926
2	Keeping a positive carbon balance under adverse conditions: responses of photosynthesis and respiration to water stress. Physiologia Plantarum, 2006, 127, 343-352.	5.2	601
3	Mesophyll diffusion conductance to CO2: An unappreciated central player in photosynthesis. Plant Science, 2012, 193-194, 70-84.	3.6	563
4	Rapid variations of mesophyll conductance in response to changes in CO <sub>2</sub> concentration around leaves. Plant, Cell and Environment, 2007, 30, 1284-1298.	5.7	486
5	UAVs challenge to assess water stress for sustainable agriculture. Agricultural Water Management, 2015, 153, 9-19.	5.6	388
6	Tobacco aquaporin NtAQP1 is involved in mesophyll conductance to CO2inÂvivo. Plant Journal, 2006, 48, 427-439.	5.7	384
7	Decreased Rubisco activity during water stress is not induced by decreased relative water content but related to conditions of low stomatal conductance and chloroplast CO 2 concentration. New Phytologist, 2006, 172, 73-82.	7.3	359
8	Importance of leaf anatomy in determining mesophyll diffusion conductance to CO2 across species: quantitative limitations and scaling up by models. Journal of Experimental Botany, 2013, 64, 2269-2281.	4.8	348
9	Diffusional conductances to CO2 as a target for increasing photosynthesis and photosynthetic water-use efficiency. Photosynthesis Research, 2013, 117, 45-59.	2.9	305
10	Photosynthesis limitations during water stress acclimation and recovery in the drought-adapted Vitis hybrid Richter-110 (V. berlandieriĂ—V. rupestris). Journal of Experimental Botany, 2009, 60, 2361-2377.	4.8	294
11	Estimating mesophyll conductance to CO2: methodology, potential errors, and recommendations. Journal of Experimental Botany, 2009, 60, 2217-2234.	4.8	289
12	Aquaporins and plant water balance. Plant, Cell and Environment, 2008, 31, 658-666.	5.7	256
13	Effects of Water Stress on Respiration in Soybean Leaves. Plant Physiology, 2005, 139, 466-473.	4.8	245
14	Understanding down-regulation of photosynthesis under water stress: future prospects and searching for physiological tools for irrigation management. Annals of Applied Biology, 2004, 144, 273-283.	2.5	240
15	Improving water use efficiency in grapevines: potential physiological targets for biotechnological improvement. Australian Journal of Grape and Wine Research, 2010, 16, 106-121.	2.1	235
16	Analysis of leakage in IRGA's leaf chambers of open gas exchange systems: quantification and its effects in photosynthesis parameterization. Journal of Experimental Botany, 2007, 58, 1533-1543.	4.8	226
17	Mesophyll conductance to CO <sub>2</sub> and Rubisco as targets for improving intrinsic water use efficiency in C <sub>3</sub> plants. Plant, Cell and Environment, 2016, 39, 965-982.	5.7	186
18	Direct Inhibition of Plant Mitochondrial Respiration by Elevated CO2. Plant Physiology, 1996, 112, 1349-1355.	4.8	155

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19	The role of mesophyll conductance during water stress and recovery in tobacco (Nicotiana) Tj ETQq1 1 0.78431	4 rgBT /C	verlock 10 Tf
20	The Effect of Growth and Measurement Temperature on the Activity of the Alternative Respiratory Pathway1. Plant Physiology, 1999, 120, 765-772.	4.8	152
21	Physiological and morphological adaptations in relation to water use efficiency in Mediterranean accessions of <i>Solanum lycopersicum</i> . Plant, Cell and Environment, 2011, 34, 245-260.	5.7	152
22	The Effects of Salicylic Acid and Tobacco Mosaic Virus Infection on the Alternative Oxidase of Tobacco. Plant Physiology, 1997, 115, 783-791.	4.8	143
23	Electron Partitioning between the Cytochrome and Alternative Pathways in Plant Mitochondria. Plant Physiology, 1995, 109, 829-837.	4.8	141
24	Rubisco activity in Mediterranean species is regulated by the chloroplastic CO2 concentration under water stress. Journal of Experimental Botany, 2011, 62, 653-665.	4.8	141
25	Mesophyll conductance to CO 2 in Arabidopsis thaliana. New Phytologist, 2007, 175, 501-511.	7.3	138
26	Stomatal and mesophyll conductances to CO <sub>2</sub> are the main limitations to photosynthesis in sugar beet ( <i>Beta vulgaris</i> ) plants grown with excess zinc. New Phytologist, 2010, 187, 145-158.	7.3	134
27	Adjustments of water use efficiency by stomatal regulation during drought and recovery in the droughtâ€adapted <i>Vitis</i> hybrid Richterâ€110 ( <i>V.</i> â€f <i>berlandieri</i> â€fĂ—â€f <i>V.</i> â€f <i>ru Physiologia Plantarum, 2008, 134, 313-323.</i>	ıpe <b>st⊉</b> is<,	/i>).124
28	The Electron Partitioning between the Cytochrome and Alternative Respiratory Pathways during Chilling Recovery in Two Cultivars of Maize Differing in Chilling Sensitivity. Plant Physiology, 2000, 122, 199-204.	4.8	122
29	Lack of Respiratory Chain Complex I Impairs Alternative Oxidase Engagement and Modulates Redox Signaling during Elicitor-Induced Cell Death in Tobacco. Plant Cell, 2007, 19, 640-655.	6.6	122
30	An In Vivo Perspective of the Role(s) of the Alternative Oxidase Pathway. Trends in Plant Science, 2018, 23, 206-219.	8.8	118
31	Variability of water use efficiency in grapevines. Environmental and Experimental Botany, 2014, 103, 148-157.	4.2	112
32	Diffusional limitations explain the lower photosynthetic capacity of ferns as compared with angiosperms in a common garden study. Plant, Cell and Environment, 2015, 38, 448-460.	5.7	112
33	Anisohydric behaviour in grapevines results in better performance under moderate water stress and recovery than isohydric behaviour. Plant and Soil, 2012, 359, 335-349.	3.7	111
34	Water-use efficiency in grapevine cultivars grown under controlled conditions: effects of water stress at the leaf and whole-plant level. Australian Journal of Grape and Wine Research, 2012, 18, 164-172.	2.1	108
35	Measurements of the Engagement of Cyanide-Resistant Respiration in the Crassulacean Acid Metabolism Plant KalanchoA« daigremontiana with the Use of On-Line Oxygen Isotope Discrimination. Plant Physiology, 1992, 100, 1087-1091.	4.8	100
36	Interactive effects of soil water deficit and air vapour pressure deficit on mesophyll conductance to CO2 in Vitis vinifera and Olea europaea. Journal of Experimental Botany, 2009, 60, 2391-2405.	4.8	100

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37	Stomatal and non-stomatal limitations to photosynthesis in seedlings and saplings of Mediterranean species pre-conditioned and aged in nurseries: Different response to water stress. Environmental and Experimental Botany, 2012, 75, 235-247.	4.2	95
38	Response of mitochondrial thioredoxin PsTrxo1, antioxidant enzymes, and respiration to salinity in pea (Pisum sativum L.) leaves. Journal of Experimental Botany, 2011, 62, 3863-3874.	4.8	89
39	Response of leaf respiration to water stress in Mediterranean species with different growth forms. Journal of Arid Environments, 2007, 68, 206-222.	2.4	86
40	The Regulation of Electron Partitioning between the Cytochrome and Alternative Pathways in Soybean Cotyledon and Root Mitochondria. Plant Physiology, 1997, 113, 903-911.	4.8	84
41	Effects of allelochemicals on plant respiration and oxygen isotope fractionation by the alternative oxidase. Journal of Chemical Ecology, 1996, 22, 801-805.	1.8	81
42	Effects of light on respiration and oxygen isotope fractionation in soybean cotyledons. Plant, Cell and Environment, 2000, 23, 983-989.	5.7	80
43	<i>In vivo</i> cytochrome and alternative pathway respiration in leaves of <i>Arabidopsis thaliana</i> plants with altered alternative oxidase under different light conditions. Plant, Cell and Environment, 2011, 34, 1373-1383.	5.7	79
44	The <i>Péclet</i> effect on leaf water enrichment correlates with leaf hydraulic conductance and mesophyll conductance for CO <sub>2</sub> . Plant, Cell and Environment, 2012, 35, 611-625.	5.7	79
45	Anatomical constraints to nonstomatal diffusion conductance and photosynthesis in lycophytes and bryophytes. New Phytologist, 2019, 222, 1256-1270.	7.3	72
46	Contribution of the cytochrome and alternative pathways to growth respiration and maintenance respiration in Arabidopsis thaliana. Physiologia Plantarum, 2007, 129, 143-151.	5.2	71
47	The contribution of C 3 and C 4 plants to the carbon cycle of a tallgrass prairie: an isotopic approach. Oecologia, 2003, 136, 347-359.	2.0	67
48	The Effects of Water Stress on Plant Respiration. , 2005, , 85-94.		67
49	Effects of drought stress and subsequent rewatering on photosynthetic and respiratory pathways in Nicotiana sylvestris wild type and the mitochondrial complex I-deficient CMSII mutant. Journal of Experimental Botany, 2010, 61, 765-775.	4.8	67
50	Effect of mitochondrial genome rearrangement on respiratory activity, photosynthesis, photorespiration and energy status of MSC16 cucumber (Cucumis sativus) mutant. Physiologia Plantarum, 2007, 131, 527-541.	5.2	62
51	Variability of mesophyll conductance in grapevine cultivars under water stress conditions in relation to leaf anatomy and water use efficiency. Australian Journal of Grape and Wine Research, 2014, 20, 272-280.	2.1	62
52	Effects of longâ€ŧerm individual and combined water and temperature stress on the growth of rice, wheat and maize: relationship with morphological and physiological acclimation. Physiologia Plantarum, 2015, 155, 149-165.	5.2	62
53	Short-Term Effects of Carbon Dioxide on Carnation Callus Cell Respiration. Plant Physiology, 1991, 96, 467-472.	4.8	61
54	PGPR Reduce Root Respiration and Oxidative Stress Enhancing Spartina maritima Root Growth and Heavy Metal Rhizoaccumulation, Frontiers in Plant Science, 2018, 9, 1500.	3.6	61

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55	Changes in Mitochondrial Electron Partitioning in Response to Herbicides Inhibiting Branched-Chain Amino Acid Biosynthesis in Soybean. Plant Physiology, 2003, 133, 1351-1359.	4.8	58
56	Photosynthetic responses of soybean ( <i>Glycine max</i> L) to heatâ€induced electrical signalling are predominantly governed by modifications of mesophyll conductance for CO <sub>2</sub> . Plant, Cell and Environment, 2013, 36, 542-552.	5.7	58
57	Regulation of Alternative Oxidase Activity in Six Wild Monocotyledonous Species. An in Vivo Study at the Whole Root Level. Plant Physiology, 2001, 126, 376-387.	4.8	57
58	18 O composition of CO2 and H2 O ecosystem pools and fluxes in a tallgrass prairie: Simulations and comparisons to measurements. Global Change Biology, 2003, 9, 1567-1581.	9.5	54
59	Differences in water-use-efficiency between two Vitis vinifera cultivars (Grenache and Tempranillo) explained by the combined response of stomata to hydraulic and chemical signals during water stress. Agricultural Water Management, 2015, 156, 1-9.	5.6	49
60	Carbon balance in grapevines under different soil water supply: importance of whole plant respiration. Australian Journal of Grape and Wine Research, 2012, 18, 308-318.	2.1	47
61	Assessment of the role of silicon in the Cu-tolerance of the C4 grass Spartina densiflora. Journal of Plant Physiology, 2015, 178, 74-83.	3.5	47
62	Salinity tolerance is related to cyanideâ€resistant alternative respiration in <i>Medicago truncatula</i> under sudden severe stress. Plant, Cell and Environment, 2016, 39, 2361-2369.	5.7	46
63	The alternative respiratory pathway mediates carboxylate synthesis in white lupin cluster roots under phosphorus deprivation. Plant, Cell and Environment, 2014, 37, 922-928.	5.7	45
64	Arbuscular Mycorrhizal Symbiosis with <i>Arundo donax</i> Decreases Root Respiration and Increases Both Photosynthesis and Plant Biomass Accumulation. Plant, Cell and Environment, 2017, 40, 1115-1126.	5.7	45
65	Beyond Sham and Cyanide: Opportunities for Studying the Alternative Oxidase in Plant Respiration Using Oxygen Isotope Discrimination Functional Plant Biology, 1995, 22, 487.	2.1	45
66	Lightâ€responsive metabolite and transcript levels are maintained following a darkâ€adaptation period in leaves of <i>Arabidopsis thaliana</i> . New Phytologist, 2012, 195, 136-148.	7.3	44
67	The reaction of the plant mitochondrial cyanide-resistant alternative oxidase with oxygen. Biochimica Et Biophysica Acta - Bioenergetics, 1994, 1188, 205-212.	1.0	43
68	Suppression of the External Mitochondrial NADPH Dehydrogenase, NDB1, in Arabidopsis thaliana Affects Central Metabolism and Vegetative Growth. Molecular Plant, 2014, 7, 356-368.	8.3	43
69	Responses of wood anatomy and carbon isotope composition of Quercus pubescens saplings subjected to two consecutive years of summer drought. Annals of Forest Science, 2010, 67, 809-809.	2.0	41
70	The Application of the Oxygen-Isotope Technique to Assess Respiratory Pathway Partitioning. , 2005, , 31-42.		41
71	Photosynthesis limitations in three fern species. Physiologia Plantarum, 2013, 149, 599-611.	5.2	40
72	Suppression of NDA-Type Alternative Mitochondrial NAD(P)H Dehydrogenases in Arabidopsis thaliana Modifies Growth and Metabolism, but not High Light Stimulation of Mitochondrial Electron Transport. Plant and Cell Physiology, 2014, 55, 881-896.	3.1	40

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73	Changes of alternative oxidase activity, capacity and protein content in leaves of <i>Cucumis sativus</i> wildâ€ŧype and MSC16 mutant grown under different light intensities. Physiologia Plantarum, 2009, 137, 419-426.	5.2	38
74	Tumour necrosis factor-alpha uncouples respiration in isolated rat mitochondria. Cytokine, 2003, 22, 1-4.	3.2	37
75	Integrative field scale phenotyping for investigating metabolic components of water stress within a vineyard. Plant Methods, 2017, 13, 90.	4.3	37
76	The effect of strobilurins on leaf gas exchange, water use efficiency and ABA content in grapevine under field conditions. Journal of Plant Physiology, 2012, 169, 379-386.	3.5	36
77	Unravelling the <i>inÂvivo</i> regulation and metabolic role of the alternative oxidase pathway in C <sub>3</sub> species under photoinhibitory conditions. New Phytologist, 2016, 212, 66-79.	7.3	36
78	The Lack of Mitochondrial Thioredoxin TRXo1 Affects In Vivo Alternative Oxidase Activity and Carbon Metabolism under Different Light Conditions. Plant and Cell Physiology, 2019, 60, 2369-2381.	3.1	35
79	Leaf age-related changes in respiratory pathways are dependent on complex I activity in Nicotiana sylvestris. Physiologia Plantarum, 2007, 129, 152-162.	5.2	34
80	Tomato landraces as a source to minimize yield losses and improve fruit quality under water deficit conditions. Agricultural Water Management, 2019, 223, 105722.	5.6	34
81	Cytochrome respiration pathway and sulphur metabolism sustain stress tolerance to low temperature in the Antarctic species <i>Colobanthus quitensis</i> . New Phytologist, 2020, 225, 754-768.	7.3	32
82	Arbuscular mycorrhizal fungus colonization in Nicotiana tabacum decreases the rate of both carboxylate exudation and root respiration and increases plant growth under phosphorus limitation. Plant and Soil, 2017, 416, 97-106.	3.7	31
83	Ubiquinone Redox Behavior in Plant Mitochondria during Electron Transport. Archives of Biochemistry and Biophysics, 1995, 317, 156-160.	3.0	30
84	Plant mitochondria electron partitioning is independent of shortâ€ŧerm temperature changes. Plant, Cell and Environment, 2009, 32, 585-591.	5.7	30
85	In the heat of the night – alternative pathway respiration drives thermogenesis in <i>Philodendron bipinnatifidum</i> . New Phytologist, 2011, 189, 1013-1026.	7.3	30
86	Automated system for simultaneous analysis of ?13C, ?18O and CO2 concentrations in small air samples. Rapid Communications in Mass Spectrometry, 2002, 16, 339-345.	1.5	28
87	Nitrogen Assimilation Studies Using15N in Soybean Plants Treated with Imazethapyr, an Inhibitor of Branched-Chain Amino Acid Biosynthesis. Journal of Agricultural and Food Chemistry, 2006, 54, 8818-8823.	5.2	27
88	Regulation of Respiration In Vivo. , 2005, , 1-15.		27
89	The Response of Photosynthesis to Soil Water Stress. , 2012, , 129-144.		24
90	Changes in yield, growth and photosynthesis in a drought-adapted Mediterranean tomato landrace (Solanum lycopersicum †Ramellet') when grafted onto commercial rootstocks and Solanum pimpinellifolium. Scientia Horticulturae, 2018, 233, 70-77.	3.6	23

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91	Response of mitochondrial antioxidant system and respiratory pathways to reactive nitrogen species in pea leaves. Physiologia Plantarum, 2013, 147, 194-206.	5.2	22
92	Photoperiod Affects the Phenotype of Mitochondrial Complex I Mutants. Plant Physiology, 2017, 173, 434-455.	4.8	22
93	Phosphorus concentration coordinates a respiratory bypass, synthesis and exudation of citrate, and the expression of highâ€affinity phosphorus transporters in <i>Solanum lycopersicum</i> . Plant, Cell and Environment, 2018, 41, 865-875.	5.7	21
94	Characterization of phenology, physiology, morphology and biomass traits across a broad Euroâ€Mediterranean ecotypic panel of the lignocellulosic feedstock <i>Arundo donax</i> . GCB Bioenergy, 2019, 11, 152-170.	5.6	21
95	Lowâ€ŧemperature tolerance of the Antarctic species <scp><i>Deschampsia antarctica</i></scp> : A complex metabolic response associated with nutrient remobilization. Plant, Cell and Environment, 2020, 43, 1376-1393.	5.7	21
96	Impaired Cyclic Electron Flow around Photosystem I Disturbs High-Light Respiratory Metabolism. Plant Physiology, 2016, 172, 2176-2189.	4.8	20
97	Respiratory ATP cost and benefit of arbuscular mycorrhizal symbiosis with Nicotiana tabacum at different growth stages and under salinity. Journal of Plant Physiology, 2017, 218, 243-248.	3.5	19
98	Variations of leaf morphology, photosynthetic traits and water-use efficiency in Western-Mediterranean tomato landraces. Photosynthetica, 2017, 55, 121-133.	1.7	19
99	Combined effect of virus infection and water stress on water flow and water economy in grapevines. Physiologia Plantarum, 2017, 160, 171-184.	5.2	18
100	Exploring molecular evolution of Rubisco in C3 and CAM Orchidaceae and Bromeliaceae. BMC Evolutionary Biology, 2020, 20, 11.	3.2	16
101	Phytochromeâ€driven changes in respiratory electron transport partitioning in soybean ( <i>Glycine) Tj ETQq1 1 (</i>	).784314 3.8	rgBT /Overloo
102	Biochemical and mesophyll diffusional limits to photosynthesis are determined by prey and root nutrient uptake in the carnivorous pitcher plant Nepenthes × ventrata. Annals of Botany, 2020, 126, 25-37.	2.9	15
103	Water status, photosynthetic pigments, C/N ratios and respiration rates of sitka spruce seedlings exposed to 70 ppbv ozone for a summer. Environmental and Experimental Botany, 1994, 34, 443-449.	4.2	13
104	Measuring Photosynthesis and Respiration with Infrared Gas Analysers. , 2018, , 51-75.		12
105	Coordinated responses of mitochondrial antioxidative enzymes, respiratory pathways and metabolism in Arabidopsis thaliana thioredoxin trxo1 mutants under salinity. Environmental and Experimental Botany, 2019, 162, 212-222.	4.2	12
106	High-throughput phenotyping of a large tomato collection under water deficit: Combining UAVs' remote sensing with conventional leaf-level physiologic and agronomic measurements. Agricultural Water Management, 2022, 260, 107283.	5.6	12
107	Measuring Water Use Efficiency in Grapevines. , 2010, , 123-134.		11
108	Trade-offs between seedling growth, plant respiration and water-use efficiency in two Mediterranean shrubs Rhamnus alaternus and Rhamnus ludovici-salvatoris. Photosynthetica, 2015, 53, 537-546.	1.7	10

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109	Measurements of Electron Partitioning Between Cytochrome and Alternative Oxidase Pathways in Plant Tissues. Methods in Molecular Biology, 2017, 1670, 203-217.	0.9	10
110	The Use of a Tomato Landrace as Rootstock Improves the Response of Commercial Tomato under Water Deficit Conditions. Agronomy, 2020, 10, 748.	3.0	10
111	Sulfide-Resistant Respiration in Leaves of <i>Elodea canadensis</i> Michx. Plant Physiology, 1989, 90, 1249-1251.	4.8	8
112	The alternative oxidase pathway is involved in optimizing photosynthesis in <i>Medicago truncatula</i> infected by <i>Fusarium oxysporum</i> and <i>Rhizoctonia solani</i> . Physiologia Plantarum, 2020, 169, 600-611.	5.2	8
113	Decreased Levels of Thioredoxin o1 Influences Stomatal Development and Aperture but Not Photosynthesis under Non-Stress and Saline Conditions. International Journal of Molecular Sciences, 2021, 22, 1063.	4.1	8
114	Leaf physiological traits of plants from the Qinghai-Tibet Plateau and other arid sites in China: Identifying susceptible species and well-adapted extremophiles. Journal of Plant Physiology, 2022, 272, 153689.	3.5	7
115	Methodologies for the Measurement of Water Flow in Grapevines. , 2010, , 57-69.		6
116	Cytochrome c Deficiency Differentially Affects the In Vivo Mitochondrial Electron Partitioning and Primary Metabolism Depending on the Photoperiod. Plants, 2021, 10, 444.	3.5	3
117	The Lack of Alternative Oxidase 1a Restricts in vivo Respiratory Activity and Stress-Related Metabolism for Leaf Osmoprotection and Redox Balancing Under Sudden Acute Water and Salt Stress in Arabidopsis thaliana. Frontiers in Plant Science, 2022, 13, .	3.6	3
118	GENETIC VARIATION OF PLANT WATER STATUS, WATER USE EFFICIENCY AND GRAPE YIELD AND QUALITY IN RESPONSE TO SOIL WATER AVAILABILITY IN GRAPEVINE (VITIS VINIFERA L.). Acta Horticulturae, 2012, , 143-150.	0.2	2
119	Improving respiration measurements with gas exchange analyzers. Journal of Plant Physiology, 2016, 207, 73-77.	3.5	2
120	Different Metabolic Roles for Alternative Oxidase in Leaves of Palustrine and Terrestrial Species. Frontiers in Plant Science, 2021, 12, 752795.	3.6	1
121	ECOPHYSIOLOGY OF PLANT RESPIRATION. , 0, , 269-292.		0