Lucas A Cernusak

List of Publications by Year
in descending order

129	9,416	38720 50	42364 92
papers	citations	h-index	g-index

138	138	138	9786
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Plant responses to rising vapor pressure deficit. New Phytologist, 2020, 226, 1550-1566.	3.5	814
2	Environmental and physiological determinants of carbon isotope discrimination in terrestrial plants. New Phytologist, 2013, 200, 950-965.	3.5	475
3	Optimal stomatal behaviour around the world. Nature Climate Change, 2015, 5, 459-464.	8.1	397
4	Heavy Water Fractionation during Transpiration. Plant Physiology, 2007, 143, 11-18.	2.3	373
5	Global variability in leaf respiration in relation to climate, plant functional types and leaf traits. New Phytologist, 2015, 206, 614-636.	3.5	350
6	Why are non-photosynthetic tissues generally 13C enriched compared with leaves in C3 plants? Review and synthesis of current hypotheses. Functional Plant Biology, 2009, 36, 199.	1.1	348
7	The relationship of leaf photosynthetic traits â€“ V_{cmax} and J_{max} â€“ to leaf nitrogen, leaf phosphorus, and specific leaf area: a metaâ€analysis and modeling study. Ecology and Evolution, 2014, 4, 3218-3235.	0.8	338
8	Nitrogen and phosphorus constrain the CO2 fertilization of global plant biomass. Nature Climate Change, 2019, 9, 684-689.	8.1	269
9	On the isotopic composition of leaf water in the non-steady state. Functional Plant Biology, 2005, 32, 293.	1.1	261
10	Stable isotopes in leaf water of terrestrial plants. Plant, Cell and Environment, 2016, 39, 1087-1102.	2.8	256
11	Environmental and physiological controls over oxygen and carbon isotope composition of Tasmanian blue gum, Eucalyptus globulus. Tree Physiology, 2005, 25, 129-146.	1.4	209
12	Savanna fires and their impact on net ecosystem productivity in North Australia. Global Change Biology, 2007, 13, 990-1004.	4.2	192
13	Leaf water deuterium enrichment shapes leaf wax n-alkane ÎD values of angiosperm plants II: Observational evidence and global implications. Geochimica Et Cosmochimica Acta, 2013, 111, 50-63.	1.6	188
14	Acclimation and adaptation components of the temperature dependence of plant photosynthesis at the global scale. New Phytologist, 2019, 222, 768-784.	3.5	171
15	Diurnal variation in the stable isotope composition of water and dry matter in fruiting Lupinus angustifolius under field conditions. Plant, Cell and Environment, 2002, 25, 893-907.	2.8	167
16	Ternary effects on the gas exchange of isotopologues of carbon dioxide. Plant, Cell and Environment, 2012, 35, 1221-1231.	2.8	157
17	Significant Difference in Hydrogen Isotope Composition Between Xylem and Tissue Water in Populus Euphratica. Plant, Cell and Environment, 2016, 39, 1848-1857.	2.8	135
18	A sub-continental scale living laboratory: Spatial patterns of savanna vegetation over a rainfall gradient in northern Australia. Agricultural and Forest Meteorology, 2011, 151, 1417-1428.	1.9	123

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19	Tropical forest responses to increasing atmospheric CO2: current knowledge and opportunities for future research. Functional Plant Biology, 2013, 40, 531.	1.1	118
20	Modelling advection and diffusion of water isotopologues in leaves. Plant, Cell and Environment, 2007, 30, 892-909.	2.8	117
21	Leaf nitrogen to phosphorus ratios of tropical trees: experimental assessment of physiological and environmental controls. New Phytologist, 2010, 185, 770-779.	3.5	113
22	Photosynthetic refixation in branches of Western White Pine. Functional Ecology, 2000, 14, 300-311.	1.7	112
23	Water Relations Link Carbon and Oxygen Isotope Discrimination to Phloem Sap Sugar Concentration in Eucalyptus globulus. Plant Physiology, 2003, 131, 1544-1554.	2.3	108
24	Abundance and distribution of leaf wax n-alkanes in leaves of Acacia and Eucalyptus trees along a strong humidity gradient in northern Australia. Organic Geochemistry, 2013, 62, 62-67.	0.9	106
25	Transpiration efficiency of a tropical pioneer tree (Ficus insipida) in relation to soil fertility. Journal of Experimental Botany, 2007, 58, 3549-3566.	2.4	101
26	Photosynthetic physiology of eucalypts along a sub-continental rainfall gradient in northern Australia. Agricultural and Forest Meteorology, 2011, 151, 1462-1470.	1.9	101
27	Oxygen isotope composition of phloem sap in relation to leaf water in Ricinus communis. Functional Plant Biology, 2003, 30, 1059.	1.1	100
28	Large variation in whole-plant water-use efficiency among tropical tree species. New Phytologist, 2007, 173, 294-305.	3.5	99
29	Fire in Australian savannas: from leaf to landscape. Global Change Biology, 2015, 21, 62-81.	4.2	88
30	Direct quantification of leaf transpiration isotopic composition. Agricultural and Forest Meteorology, 2012, 154-155, 127-135.	1.9	87
31	Climate and soils together regulate photosynthetic carbon isotope discrimination within C₃ plants worldwide. Global Ecology and Biogeography, 2018, 27, 1056-1067.	2.7	85
32	Physiological and isotopic (Î´¹³C and Î´¹⁸O) responses of three tropical tree species to water and nutrient availability. Plant, Cell and Environment, 2009, 32, 1441-1455.	2.8	81
33	Conifers, Angiosperm Trees, and Lianas: Growth, Whole-Plant Water and Nitrogen Use Efficiency, and Stable Isotope Composition (Î´ Â13C and Î´ Â18O) of Seedlings Grown in a Tropical Environment Â. Plant Physiology, 2008, 148, 642-659.	2.3	80
34	Unsaturation of vapour pressure inside leaves of two conifer species. Scientific Reports, 2018, 8, 7667.	1.6	80
35	Identifying areas at risk of droughtâ€induced tree mortality across Southâ€Eastern Australia. Global Change Biology, 2020, 26, 5716-5733.	4.2	79
36	Carbon isotope discrimination in photosynthetic bark. Oecologia, 2001, 128, 24-35.	0.9	76

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37	Tropical tree mortality has increased with rising atmospheric water stress. Nature, 2022, 608, 528-533.	13.7	74
38	Stem and leaf gas exchange and their responses to fire in a north Australian tropical savanna. Plant, Cell and Environment, 2006, 29, 632-646.	2.8	73
39	Nitrogen to phosphorus ratio of plant biomass versus soil solution in a tropical pioneer tree, Ficus insipida. Journal of Experimental Botany, 2010, 61, 3735-3748.	2.4	73
40	AusTraits, a curated plant trait database for the Australian flora. Scientific Data, 2021, 8, 254.	2.4	73
41	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.	2.2	68
42	Measurement and Interpretation of the Oxygen Isotope Composition of Carbon Dioxide Respired by Leaves in the Dark. Plant Physiology, 2004, 136, 3350-3363.	2.3	67
43	Nocturnal stomatal conductance and implications for modelling Î´18O of leaf-respired CO2 in temperate tree species. Functional Plant Biology, 2005, 32, 1107.	1.1	67
44	Stable Isotopes Reveal the Contribution of Corticular Photosynthesis to Growth in Branches of Eucalyptus miniata. Plant Physiology, 2011, 155, 515-523.	2.3	64
45	Responses of Legume Versus Nonlegume Tropical Tree Seedlings to Elevated CO2 Concentration Â. Plant Physiology, 2011, 157, 372-385.	2.3	64
46	Transpiration modulates phosphorus acquisition in tropical tree seedlings. Tree Physiology, 2011, 31, 878-885.	1.4	61
47	The benefits of recycling: how photosynthetic bark can increase drought tolerance. New Phytologist, 2015, 208, 995-997.	3.5	58
48	Robust Response of Terrestrial Plants to Rising CO2. Trends in Plant Science, 2019, 24, 578-586.	4.3	57
49	A metaâ€analysis of responses of C₃ plants to atmospheric CO₂: doseâ€“response curves for 85 traits ranging from the molecular to the wholeâ€plant level. New Phytologist, 2022, 233, 1560-1596.	3.5	55
50	Oxygen and carbon isotope composition of parasitic plants and their hosts in southwestern Australia. Oecologia, 2004, 139, 199-213.	0.9	53
51	Plant Î´¹⁵N Correlates with the Transpiration Efficiency of Nitrogen Acquisition in Tropical Trees. Plant Physiology, 2009, 151, 1667-1676.	2.3	53
52	Gas exchange and waterâ€use efficiency in plant canopies. Plant Biology, 2020, 22, 52-67.	1.8	53
53	SPECIALâ€”Savanna Patterns of Energy and Carbon Integrated across the Landscape. Bulletin of the American Meteorological Society, 2011, 92, 1467-1485.	1.7	52
54	Leaf manganese concentrations as a tool to assess belowground plant functioning in phosphorus-impoverished environments. Plant and Soil, 2021, 461, 43-61.	1.8	52

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55	Living on the edge: A continentalâ€scale assessment of forest vulnerability to drought. Global Change Biology, 2021, 27, 3620-3641.	4.2	50
56	Storage and transpiration have negligible effects on Â13C of stem CO2 efflux in large conifer trees. Tree Physiology, 2009, 29, 1563-1574.	1.4	49
57	Effects of forest thinning on soil-plant carbon and nitrogen dynamics. Plant and Soil, 2017, 411, 437-449.	1.8	48
58	A continentalâ€scale assessment of variability in leaf traits: Within species, across sites and between seasons. Functional Ecology, 2018, 32, 1492-1506.	1.7	48
59	Inferring foliar water uptake using stable isotopes of water. Oecologia, 2017, 184, 763-766.	0.9	47
60	Microwave extractionâ€“isotope ratio infrared spectroscopy (MEâ€IRIS): a novel technique for rapid extraction and inâ€line analysis of Î´¹⁸O and Î´²H values of water in plants, soils and insects. Rapid Communications in Mass Spectrometry, 2014, 28, 2151-2161.	0.7	44
61	Beyond tree-ring widths: stable isotopes sharpen the focus on climate responses of temperate forest trees. Tree Physiology, 2015, 35, 1-3.	1.4	44
62	Leaf vein fraction influences the PÃ©clet effect and ¹⁸O enrichment in leaf water. Plant, Cell and Environment, 2016, 39, 2414-2427.	2.8	41
63	The validity of optimal leaf traits modelled on environmental conditions. New Phytologist, 2019, 221, 1409-1423.	3.5	38
64	Pantropical modelling of canopy functional traits using Sentinel-2 remote sensing data. Remote Sensing of Environment, 2021, 252, 112122.	4.6	38
65	The multifaceted relationship between leaf water ¹⁸<scp>O</scp> enrichment and transpiration rate. Plant, Cell and Environment, 2013, 36, 1239-1241.	2.8	37
66	Responses of foliar Â13C, gas exchange and leaf morphology to reduced hydraulic conductivity in Pinus monticola branches. Tree Physiology, 2001, 21, 1215-1222.	1.4	35
67	Optimal climate for large trees at high elevations drives patterns of biomass in remote forests of Papua New Guinea. Global Change Biology, 2017, 23, 4873-4883.	4.2	33
68	Critical review: incorporating the arrangement of mitochondria and chloroplasts into models of photosynthesis and carbon isotope discrimination. Photosynthesis Research, 2019, 141, 5-31.	1.6	33
69	Effect of Vapor Pressure Deficit on Gas Exchange in Wild-Type and Abscisic Acidâ€“Insensitive Plants. Plant Physiology, 2019, 181, 1573-1586.	2.3	29
70	Do ²H and ¹⁸O in leaf water reflect environmental drivers differently?. New Phytologist, 2022, 235, 41-51.	3.5	29
71	Plant functional groups within a tropical forest exhibit different wood functional anatomy. Functional Ecology, 2017, 31, 582-591.	1.7	27
72	Relative roles of termites and saprotrophic microbes as drivers of wood decay: A wood block test. Austral Ecology, 2018, 43, 257-267.	0.7	26

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73	Oxygen isotope composition of CAM and C₃Clusia species: nonâ€steadyâ€state dynamics control leaf water ¹⁸O enrichment in succulent leaves. Plant, Cell and Environment, 2008, 31, 1644-1662.	2.8	24
74	Photosynthesis and water-use efficiency of seedlings from northern Australian monsoon forest, savanna and swamp habitats grown in a common garden. Functional Plant Biology, 2010, 37, 1050.	1.1	24
75	Infidelity in the outback: climate signal recorded in Î”¹⁸O of leaf but not branch cellulose of eucalypts across an Australian aridity gradient. Tree Physiology, 2017, 37, 554-564.	1.4	23
76	The role of topography and plant functional traits in determining tropical reforestation success. Journal of Applied Ecology, 2018, 55, 1029-1039.	1.9	23
77	Global climate and nutrient controls of photosynthetic capacity. Communications Biology, 2021, 4, 462.	2.0	23
78	Factors Affecting the Oxygen Isotope Ratio of Plant Organic Material. , 2005, , 9-28.		22
79	A reporting format for leaf-level gas exchange data and metadata. Ecological Informatics, 2021, 61, 101232.	2.3	22
80	Leaf:wood allometry and functional traits together explain substantial growth rate variation in rainforest trees. AoB PLANTS, 2019, 11, plz024.	1.2	21
81	On the use of leaf water to determine plant water source: A proof of concept. Hydrological Processes, 2021, 35, e14073.	1.1	20
82	Two tropical conifers show strong growth and water-use efficiency responses to altered CO₂concentration. Annals of Botany, 2016, 118, 1113-1125.	1.4	19
83	Directional change in leaf dry matter Î´â€Š13C during leaf development is widespread in C3 plants. Annals of Botany, 2020, 126, 981-990.	1.4	19
84	Two-Source Î´¹⁸O Method to Validate the CO¹⁸O-Photosynthetic Discrimination Model: Implications for Mesophyll Conductance. Plant Physiology, 2019, 181, 1175-1190.	2.3	18
85	A new method to measure carbon isotope composition of CO₂ respired by trees: stem CO₂ equilibration. Functional Ecology, 2009, 23, 1050-1058.	1.7	17
86	Elevated temperature and CO2 cause differential growth stimulation and drought survival responses in eucalypt species from contrasting habitats. Tree Physiology, 2019, 39, 1806-1820.	1.4	17
87	Stem diameter growth rates in a fireâ€prone savanna correlate with photosynthetic rate and branchâ€scale biomass allocation, but not specific leaf area. Austral Ecology, 2019, 44, 339-350.	0.7	17
88	Stability of tropical forest tree carbonâ€water relations in a rainfall exclusion treatment through shifts in effective water uptake depth. Global Change Biology, 2021, 27, 6454-6466.	4.2	17
89	Transpiration efficiency over an annual cycle, leaf gas exchange and wood carbon isotope ratio of three tropical tree species. Tree Physiology, 2009, 29, 1153-1161.	1.4	16
90	Ecology of the Podocarpaceae in Tropical Forests. Smithsonian Contributions To Botany, 2011, , viii-207.	0.7	16

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91	Tropical tree growth sensitivity to climate is driven by species intrinsic growth rate and leaf traits. Global Change Biology, 2022, 28, 1414-1432.	4.2	16
92	tri-PRI: A three band reflectance index tracking dynamic photoprotective mechanisms in a mature eucalypt forest. Agricultural and Forest Meteorology, 2019, 272-273, 187-201.	1.9	15
93	Bridge to the future: Important lessons from 20Âyears of ecosystem observations made by the OzFlux network. Global Change Biology, 2022, 28, 3489-3514.	4.2	14
94	Isoscapes: a new dimension in community ecology. Tree Physiology, 2016, 36, 1456-1459.	1.4	13
95	Thirty-eight years of CO₂ fertilization has outpaced growing aridity to drive greening of Australian woody ecosystems. Biogeosciences, 2022, 19, 491-515.	1.3	13
96	Relationship between leaf functional traits and productivity in Aquilaria crassna (Thymelaeaceae) plantations: a tool to aid in the early selection of high-yielding trees. Tree Physiology, 2017, 37, 645-653.	1.4	12
97	Coupled rainfall and water vapour stable isotope time series reveal tropical atmospheric processes on multiple timescales. Hydrological Processes, 2020, 34, 111-124.	1.1	12
98	Assessing the Australian Termite Diversity Anomaly: How Habitat and Rainfall Affect Termite Assemblages. Frontiers in Ecology and Evolution, 2021, 9, .	1.1	12
99	Towards speciesâ€level forecasts of droughtâ€induced tree mortality risk. New Phytologist, 2022, 235, 94-110.	3.5	12
100	Podocarpaceae in Tropical Forests: A Synthesis. Smithsonian Contributions To Botany, 2011, , 189-195.	0.7	11
101	Zea mays rhizosphere respiration, but not soil organic matter decomposition was stable across a temperature gradient. Soil Biology and Biochemistry, 2010, 42, 2030-2033.	4.2	10
102	Isotopic and morphologic proxies for reconstructing light environment and leaf function of fossil leaves: a modern calibration in the Daintree Rainforest, Australia. American Journal of Botany, 2020, 107, 1165-1176.	0.8	10
103	Elevated temperature and carbon dioxide alter resource allocation to growth, storage and defence in cassava (Manihot esculenta). Environmental and Experimental Botany, 2020, 173, 103997.	2.0	10
104	Predicting species abundance by implementing the ecological niche theory. Ecography, 2021, 44, 1723-1730.	2.1	10
105	Identifying drivers of leaf water and cellulose stable isotope enrichment in Eucalyptus in northern Australia. Oecologia, 2017, 183, 31-43.	0.9	8
106	Functional traits of lianas in an Australian lowland rainforest align with postâ€disturbance rather than dry season advantage. Austral Ecology, 2019, 44, 983-994.	0.7	8
107	Dynamic responses of gas exchange and photochemistry to heat interference during drought in wheat and sorghum. Functional Plant Biology, 2020, 47, 611.	1.1	8
108	Functional susceptibility of tropical forests to climate change. Nature Ecology and Evolution, 2022, 6, 878-889.	3.4	8

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109	The effects of an experimental drought on the ecophysiology and fruiting phenology of a tropical rainforest palm. Journal of Plant Ecology, 2020, 13, 744-753.	1.2	7
110	Lianas and trees exhibit divergent intrinsic waterâ€use efficiency along elevational gradients in South American and African tropical forests. Global Ecology and Biogeography, 2021, 30, 2259-2272.	2.7	7
111	Carbon Isotope Effects in Relation to CO2 Assimilation by Tree Canopies. Tree Physiology, 2022, , 291-310.	0.9	7
112	Tropical languor. Nature Geoscience, 2015, 8, 4-5.	5.4	6
113	Forest system hydraulic conductance: partitioning tree and soil components. New Phytologist, 2022, 233, 1667-1681.	3.5	6
114	Predicted alteration of vertebrate communities in response to climateâ€induced elevational shifts. Diversity and Distributions, 2022, 28, 1180-1190.	1.9	6
115	Why are tropical conifers disadvantaged in fertile soils? Comparison of Podocarpus guatemalensis with an angiosperm pioneer, Ficus insipida. Tree Physiology, 2020, 40, 810-821.	1.4	5
116	Drought reduces the growth and health of tropical rainforest understory plants. Forest Ecology and Management, 2022, 511, 120128.	1.4	5
117	Oxygen isotope exchange between water and carbon dioxide in soils is controlled by pH, nitrate and microbial biomass through links to carbonic anhydrase activity. Soil, 2021, 7, 145-159.	2.2	4
118	Understanding how ozone impacts plant water-use efficiency. Tree Physiology, 2021, 41, 2229-2233.	1.4	4
119	Nitrogen concentration and physical properties are key drivers of woody tissue respiration. Annals of Botany, 2022, 129, 633-646.	1.4	4
120	Preface: advances in modelling photosynthetic processes in terrestrial plants. Photosynthesis Research, 2019, 141, 1-3.	1.6	3
121	Environmental impacts of abrasive blasting of transmission towers in protected areas. Journal of Environmental Management, 2019, 252, 109430.	3.8	3
122	Delayed greening during leaf expansion under ambient and elevated CO₂ in tropical tree seedlings. Austral Ecology, 2022, 47, 530-540.	0.7	3
123	The Role of Hydraulic Failure in a Massive Mangrove Die-Off Event. Frontiers in Plant Science, 2022, 13, 822136.	1.7	3
124	CO2Diffusion in Douglas Fir Bark. Journal of Sustainable Forestry, 1999, 10, 107-113.	0.6	2
125	Automated calibration of laser spectrometer measurements of Î´ 18 O and Î´ 2 H values in water vapour using a Dew Point Generator. Rapid Communications in Mass Spectrometry, 2018, 32, 1008-1014.	0.7	2
126	Epiphytic antâ€plant obtains nitrogen from both native and invasive ant inhabitants. Biotropica, 2022, 54, 556-560.	0.8	2

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127	Red light shines a path forward on leaf minimum conductance. New Phytologist, 2022, 233, 5-7.	3.5	1
128	Effect of climate change on regeneration of plants from seeds in tropical wet forests. , 2022, , 157-168.		1
129	Savanna fires and their impact on net ecosystem productivity in North Australia. Global Change Biology, 2007, .	4.2	0