John I Spicer

List of Publications by Year
in descending order

127 papers	7,054 citations	71097 41 h-index	62593 80 g-index
128 all docs	128 docs citations	128 times ranked	6134 citing authors

#	Article	IF	Citations
1	Ocean acidification may increase calcification rates, but at a cost. Proceedings of the Royal Society B: Biological Sciences, 2008, 275, 1767-1773.	2.6	496
2	Physiological Correlates of Geographic Range in Animals. Annual Review of Ecology, Evolution, and Systematics, 2011, 42, 155-179.	8.3	350
3	Predicting the impact of ocean acidification on benthic biodiversity: What can animal physiology tell us?. Journal of Experimental Marine Biology and Ecology, 2008, 366, 187-197.	1.5	336
4	Rapoport's rule: time for an epitaph?. Trends in Ecology and Evolution, 1998, 13, 70-74.	8.7	310
5	Macrophysiology: A Conceptual Reunification. American Naturalist, 2009, 174, 595-612.	2.1	298
6	Thermal tolerance, acclimatory capacity and vulnerability to global climate change. Biology Letters, 2008, 4, 99-102.	2.3	292
7	What determines a speciesâ€™ geographical range? Thermal biology and latitudinal range size relationships in European diving beetles (Coleoptera: Dytiscidae). Journal of Animal Ecology, 2010, 79, 194-204.	2.8	280
8	Oxygen supply in aquatic ectotherms: Partial pressure and solubility together explain biodiversity and size patterns. Ecology, 2011, 92, 1565-1572.	3.2	254
9	Ocean acidification disrupts induced defences in the intertidal gastropod<i>Littorina littorea</i>. Biology Letters, 2007, 3, 699-701.	2.3	203
10	Effects of anthropogenic seawater acidification on acidâ€“base balance in the sea urchin Psammechinus miliaris. Marine Pollution Bulletin, 2007, 54, 89-96.	5.0	200
11	Immunological function in marine invertebrates: Responses to environmental perturbation. Fish and Shellfish Immunology, 2011, 30, 1209-1222.	3.6	185
12	Adaptation and acclimatization to ocean acidification in marine ectotherms: an<i>in situ</i>transplant experiment with polychaetes at a shallow CO₂vent system. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20120444.	4.0	165
13	Influence of CO2-related seawater acidification on extracellular acidâ€“base balance in the velvet swimming crab Necora puber. Marine Biology, 2007, 151, 1117-1125.	1.5	163
14	Distribution of sea urchins living near shallow water CO2 vents is dependent upon species acidâ€“base and ion-regulatory abilities. Marine Pollution Bulletin, 2013, 73, 470-484.	5.0	133
15	The relationship between range size and niche breadth: a test using five species ofGammarus(Amphipoda). Global Ecology and Biogeography, 2001, 10, 179-188.	5.8	111
16	Reduced pH sea water disrupts chemo-responsive behaviour in an intertidal crustacean. Journal of Experimental Marine Biology and Ecology, 2012, 412, 134-140.	1.5	105
17	Development of physiological regulatory systems: altering the timing of crucial events. Zoology, 2003, 106, 91-99.	1.2	102
18	Reduced sea water pH disrupts resource assessment and decision making in the hermit crab Pagurus bernhardus. Animal Behaviour, 2011, 82, 495-501.	1.9	101

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19	Subtle but significant effects of CO2 acidified seawater on embryos of the intertidal snail, Littorina obtusata. Aquatic Biology, 2009, 5, 41-48.	1.4	100
20	Post-larval development of two intertidal barnacles at elevated CO2 and temperature. Marine Biology, 2010, 157, 725-735.	1.5	96
21	Relative influences of ocean acidification and temperature on intertidal barnacle post-larvae at the northern edge of their geographic distribution. Estuarine, Coastal and Shelf Science, 2010, 86, 675-682.	2.1	95
22	¹H NMR Metabolomics Reveals Contrasting Response by Male and Female Mussels Exposed to Reduced Seawater pH, Increased Temperature, and a Pathogen. Environmental Science & Technology, 2014, 48, 7044-7052.	10.0	91
23	Future high CO2 in the intertidal may compromise adult barnacle Semibalanus balanoides survival and embryonic development rate. Marine Ecology - Progress Series, 2009, 389, 193-202.	1.9	91
24	Effect of CO₂-related acidification on aspects of the larval development of the European lobster, <i>Homarus gammarus</i> (L.). Biogeosciences, 2009, 6, 1747-1754.	3.3	90
25	Impact of medium-term exposure to CO2 enriched seawater on the physiological functions of the velvet swimming crab Necora puber. Aquatic Biology, 2010, 10, 11-21.	1.4	83
26	Comparing the impact of high CO₂on calcium carbonate structures in different marine organisms. Marine Biology Research, 2011, 7, 565-575.	0.7	77
27	Elevated temperature elicits greater effects than decreased pH on the development, feeding and metabolism of northern shrimp (Pandalus borealis) larvae. Marine Biology, 2013, 160, 2037-2048.	1.5	75
28	Multiâ€generational responses of a marine polychaete to a rapid change in seawater <i>p</i><scp>CO</scp>₂. Evolutionary Applications, 2016, 9, 1082-1095.	3.1	71
29	Novel microcosm system for investigating the effects of elevated carbon dioxide and temperature on intertidal organisms. Aquatic Biology, 2008, 3, 51-62.	1.4	70
30	Effects of elevated CO2 on the reproduction of two calanoid copepods. Marine Pollution Bulletin, 2013, 73, 428-434.	5.0	68
31	The effect of CO2 acidified sea water and reduced salinity on aspects of the embryonic development of the amphipod Echinogammarus marinus (Leach). Marine Pollution Bulletin, 2009, 58, 1187-1191.	5.0	67
32	Environmental calcium modifies induced defences in snails. Proceedings of the Royal Society B: Biological Sciences, 2004, 271, S67-70.	2.6	57
33	Impact of CO2-acidified seawater on the extracellular acidâ€“base balance of the northern sea urchin Strongylocentrotus drÃ¶ebachiensis. Journal of Experimental Marine Biology and Ecology, 2011, 407, 19-25.	1.5	56
34	Exoskeleton dissolution with mechanoreceptor damage in larval Dungeness crab related to severity of present-day ocean acidification vertical gradients. Science of the Total Environment, 2020, 716, 136610.	8.0	54
35	Does the development of respiratory regulation always accompany the transition from pelagic larvae to benthic fossorial postlarvae in the Norway lobster Nephrops norvegicus (L.)?. Journal of Experimental Marine Biology and Ecology, 2003, 295, 219-243.	1.5	52
36	Stage-Specific Changes in Physiological and Life-History Responses to Elevated Temperature and P<scp>co</scp>₂during the Larval Development of the European Lobster<i>Homarus gammarus</i>(L.). Physiological and Biochemical Zoology, 2015, 88, 494-507.	1.5	50

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37	What can an ecophysiological approach tell us about the physiological responses of marine invertebrates to hypoxia?. Journal of Experimental Biology, 2014, 217, 46-56.	1.7	49
38	Ocean warming and acidification; implications for the Arctic brittlestar Ophiocten sericeum. Polar Biology, 2011, 34, 1033-1044.	1.2	48
39	The physiological ecology of talitrid amphipods: an update. Canadian Journal of Zoology, 1998, 76, 1965-1982.	1.0	47
40	Benthic Assemblages of the Anton Dohrn Seamount (NE Atlantic): Defining Deep-Sea Biotopes to Support Habitat Mapping and Management Efforts with a Focus on Vulnerable Marine Ecosystems. PLoS ONE, 2015, 10, e0124815.	2.5	44
41	A brief re-examination of the function and regulation of extracellular magnesium and its relationship to activity in crustacean arthropods. Comparative Biochemistry and Physiology A, Comparative Physiology, 1993, 106, 19-23.	0.6	42
42	Multiple Physiological Responses to Multiple Environmental Challenges: An Individual Approach. Integrative and Comparative Biology, 2013, 53, 660-670.	2.0	42
43	The sensitivity of the early benthic juvenile stage of the European lobster Homarus gammarus (L.) to elevated pCO2 and temperature. Marine Biology, 2016, 163, 1.	1.5	40
44	Assessing the environmental consequences of CO2 leakage from geological CCS: Generating evidence to support environmental risk assessment. Marine Pollution Bulletin, 2013, 73, 399-401.	5.0	39
45	Short-term exposure to hypercapnia does not compromise feeding, acidâ€“base balance or respiration of<i>Patella vulgata</i>but surprisingly is accompanied by radula damage. Journal of the Marine Biological Association of the United Kingdom, 2010, 90, 1379-1384.	0.8	38
46	Does sex really matter? Explaining intraspecies variation in ocean acidification responses. Biology Letters, 2017, 13, 20160761.	2.3	36
47	An integrative approach identifies developmental sequence heterochronies in freshwater basommatophoran snails. Evolution & Development, 2007, 9, 122-130.	2.0	33
48	Plasticity in the timing of physiological development: Physiological heterokairy â€" What is it, how frequent is it, and does it matter?. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2007, 148, 712-719.	1.8	33
49	Can ocean acidification affect population dynamics of the barnacle Semibalanus balanoides at its southern range edge?. Ecology, 2010, 91, 2931-2940.	3.2	32
50	Pathogenic challenge reveals immune trade-off in mussels exposed to reduced seawater pH and increased temperature. Journal of Experimental Marine Biology and Ecology, 2015, 462, 83-89.	1.5	30
51	Developmental ecophysiology of the beachflea Orchestia gammarellus (Pallas) (Crustacea:) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5 and Ecology, 1996, 207, 191-203.	1.5	29
52	The influence of hypercapnia and the infaunal brittlestar <i>Amphiura filiformis</i> on sediment nutrient flux â€" will ocean acidification affect nutrient exchange?. Biogeosciences, 2009, 6, 2015-2024.	3.3	29
53	Biological impacts of enhanced alkalinity in Carcinus maenas. Marine Pollution Bulletin, 2013, 71, 190-198.	5.0	29
54	Reduced salinities compromise the thermal tolerance of hypersaline specialist diving beetles. Physiological Entomology, 2010, 35, 265-273.	1.5	28

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55	Duration tenacity: A method for assessing acclimatory capacity of the Antarctic limpet, Nacella concinna. Journal of Experimental Marine Biology and Ecology, 2011, 399, 39-42.	1.5	28
56	The Culture of Eggs and Embryos of Amphipod Crustaceans: Implications For Brood Pouch Physiology. Journal of the Marine Biological Association of the United Kingdom, 1996, 76, 361-376.	0.8	27
57	Effect of low temperature on oxygen uptake and haemolymph ions in the sandhopper <i>Talitrus saltator</i> (Crustacea: Amphipoda). Journal of the Marine Biological Association of the United Kingdom, 1994, 74, 313-321.	0.8	25
58	Changes in the pattern of osmoregulation in the brackish water amphipodGammarus duebeni Lilljeborg (crustacea) during embryonic development. The Journal of Experimental Zoology, 1995, 273, 271-281.	1.4	25
59	Gill function in the amphipod Megalorchestia (Orchestoidea) californiana (Brandt, 1851) (Crustacea). Canadian Journal of Zoology, 1994, 72, 1155-1158.	1.0	24
60	Ontogeny of respiratory function in crustaceans exhibiting either direct or indirect development. The Journal of Experimental Zoology, 1995, 272, 413-418.	1.4	24
61	Studying the altered timing of physiological events during development: It's about timeâ€¦or is it?. Respiratory Physiology and Neurobiology, 2011, 178, 3-12.	1.6	24
62	Does plasticity in thermal tolerance trade off with inherent tolerance? The influence of setal tracheal gills on thermal tolerance and its plasticity in a group of European diving beetles. Journal of Insect Physiology, 2018, 106, 163-171.	2.0	24
63	Antioxidant capacity of polychaetes occurring at a natural CO2 vent system: Results of an in situ reciprocal transplant experiment. Marine Environmental Research, 2015, 112, 44-51.	2.5	23
64	A genetic basis for intraspecific differences in developmental timing?. Evolution & Development, 2011, 13, 542-548.	2.0	22
65	Alarm substance from adult zebrafish alters early embryonic development in offspring. Biology Letters, 2010, 6, 525-528.	2.3	21
66	Environmental hypoxia but not minor shell damage affects scope for growth and body condition in the blue mussel Mytilus edulis (L.). Marine Environmental Research, 2014, 95, 74-80.	2.5	21
67	Living in warmer more acidic oceans retards physiological recovery from tidal emersion in the velvet swimming crab<i>Necora puber</i>(L.). Journal of Experimental Biology, 2014, 217, 2499-508.	1.7	20
68	Developmental ecophysiology of the beachflea Orchestia gammarellus (Pallas) (Crustacea: Amphipoda) II. Embryonic osmoregulation. Journal of Experimental Marine Biology and Ecology, 1996, 207, 205-216.	1.5	19
69	Developmental ecophysiology of the beachflea Orchestia gammarellus (Pallas) (Crustacea: Amphipoda:) Tj ETQq1 1 0.784314 rgBT /Ove Journal of Experimental Marine Biology and Ecology, 1999, 232, 275-283.	1.5	19
70	Embryonic transcriptome of the brackishwater amphipod Gammarus chevreuxi. Marine Genomics, 2016, 28, 5-6.	1.1	19
71	Predator cues alter the timing of developmental events in gastropod embryos. Biology Letters, 2011, 7, 285-287.	2.3	18
72	De novo transcriptome assembly of the amphipod Gammarus chevreuxi exposed to chronic hypoxia. Marine Genomics, 2017, 33, 17-19.	1.1	18

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73	Universal metabolic constraints shape the evolutionary ecology of diving in animals. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20200488.	2.6	18
74	Effects of Ocean Acidification on Sediment Fauna. , 2011, , .		18
75	Embryonic rotational behaviour in the pond snail Lymnaea stagnalis: influences of environmental oxygen and development stage. Zoology, 2009, 112, 471-477.	1.2	17
76	Physiology and Metabolism of Northern Krill (Meganyctiphanes norvegica Sars). Advances in Marine Biology, 2010, 57, 91-126.	1.4	17
77	Physiological plasticity preserves the metabolic relationship of the intertidal non-calcifying anthozoan-Symbiodinium symbiosis under ocean acidification. Journal of Experimental Marine Biology and Ecology, 2013, 449, 200-206.	1.5	17
78	Physiological diversity, biodiversity patterns and global climate change: testing key hypotheses involving temperature and oxygen. Philosophical Transactions of the Royal Society B: Biological Sciences, 2019, 374, 20190032.	4.0	17
79	Title is missing!. Hydrobiologia, 2002, 477, 189-194.	2.0	16
80	Does the effect of low temperature on osmoregulation by the prawn Palaemon elegans Rathke, 1837 explain winter migration offshore?. Marine Biology, 2008, 153, 937-943.	1.5	16
81	Parentâ€"offspring similarity in the timing of developmental events: an origin of heterochrony?. Proceedings of the Royal Society B: Biological Sciences, 2013, 280, 20131479.	2.6	16
82	Salinity-induced heterokairy in an upper-estuarine population of the snail Radix balthica (Mollusca:) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.4	16
83	Cold comfort for krill? Respiratory consequences of diel vertical migration by<i>Meganyctiphanes norvegica</i>into deep hypoxic waters. Ophelia, 2000, 53, 213-217.	0.3	15
84	Reduced pH affects pulsing behaviour and body size in ephyrae of the moon jellyfish, Aurelia aurita. Journal of Experimental Marine Biology and Ecology, 2016, 480, 54-61.	1.5	15
85	Do aquatic ectotherms perform better under hypoxia after warm acclimation?. Journal of Experimental Biology, 2021, 224, .	1.7	15
86	Synthesis of Thresholds of Ocean Acidification Impacts on Echinoderms. Frontiers in Marine Science, 2021, 8, .	2.5	15
87	Facing up to climate change: Community composition varies with aspect and surface temperature in the rocky intertidal. Marine Environmental Research, 2021, 172, 105482.	2.5	15
88	Developmental changes in the responses of O2 uptake and ventilation to acutely declining O2 tensions in larval krill Meganyctiphanes norvegica. Journal of Experimental Marine Biology and Ecology, 2003, 295, 207-218.	1.5	14
89	Effects of oil and global environmental drivers on two keystone marine invertebrates. Scientific Reports, 2018, 8, 17380.	3.3	14
90	The importance of interâ€individual variation in predicting species' responses to global change drivers. Ecology and Evolution, 2019, 9, 4327-4339.	1.9	14

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91	Effects of handling during experimental procedures on stress indices in the green shore crab, <i>Carcinus maenas</i> (L). Marine and Freshwater Behaviour and Physiology, 2021, 54, 65-86.	0.9	14
92	A novel application of motion analysis for detecting stress responses in embryos at different stages of development. BMC Bioinformatics, 2013, 14, 37.	2.6	13
93	Short-term acclimation in adults does not predict offspring acclimation potential to hypoxia. Scientific Reports, 2018, 8, 3174.	3.3	13
94	The comparative biology of diving in two genera of European Dytiscidae (Coleoptera). Journal of Evolutionary Biology, 2012, 25, 329-341.	1.7	12
95	A high-throughput and open-source platform for embryo phenomics. PLoS Biology, 2018, 16, e3000074.	5.6	12
96	Quantifying susceptibility of marine invertebrate biocomposites to dissolution in reduced pH. Royal Society Open Science, 2019, 6, 190252.	2.4	12
97	Out of place and out of time â€“ towards a more integrated approach to heterochrony. Animal Biology, 2006, 56, 487-502.	1.0	11
98	Acute extracellular acidâ€“base disturbance in the burrowing sea urchin Brissopsis lyrifera during exposure to a simulated CO2 release. Science of the Total Environment, 2012, 427-428, 203-207.	8.0	11
99	Moderate reductions in dissolved oxygen may compromise performance in an ecologically-important estuarine invertebrate. Science of the Total Environment, 2019, 693, 133444.	8.0	11
100	Will giant polar amphipods be first to fare badly in an oxygen-poor ocean? Testing hypotheses linking oxygen to body size. Philosophical Transactions of the Royal Society B: Biological Sciences, 2019, 374, 20190034.	4.0	11
101	Synthesis of Thresholds of Ocean Acidification Impacts on Decapods. Frontiers in Marine Science, 2021, 8, .	2.5	11
102	Application of computer-aided tomography techniques to visualize kelp holdfast structure reveals the importance of habitat complexity for supporting marine biodiversity. Journal of Experimental Marine Biology and Ecology, 2016, 477, 47-56.	1.5	10
103	Transcriptional frontloading contributes to crossâ€tolerance between stressors. Evolutionary Applications, 2021, 14, 577-587.	3.1	10
104	Combining Motion Analysis and Microfluidics â€“ A Novel Approach for Detecting Whole-Animal Responses to Test Substances. PLoS ONE, 2014, 9, e113235.	2.5	10
105	Respiratory responses of marine animals to environmental hypoxia. , 2016, , 25-35.		9
106	Seasonal and temperature effects on osmoregulation by the invasive prawn<i>Palaemon elegans</i>Rathke, 1837 in the Baltic Sea. Marine Biology Research, 2010, 6, 333-337.	0.7	8
107	The effects of elevated temperature and <i>P</i>CO2Âon the energetics and haemolymph pH homeostasis of juveniles of the European lobster, <i>Homarus gammarus</i>. Journal of Experimental Biology, 2020, 223, .	1.7	8
108	Development of Cardiac Function in Crustaceans: Patterns and Processes. American Zoologist, 2001, 41, 1068-1077.	0.7	7

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109	The Role of Circulating Metal Ions During Shell Fights in the Hermit Crab <i>Pagurus bernhardus</i>. Ethology, 2008, 114, 1014-1022.	1.1	7
110	Development of cardiovascular function in the marine gastropod Littorina obtusata (Linnaeus). Journal of Experimental Biology, 2012, 215, 2327-2333.	1.7	7
111	Variance in developmental event timing is greatest at low biological levels: implications for heterochrony. Biological Journal of the Linnean Society, 2013, 110, 581-590.	1.6	7
112	Differences in the timing of cardio-respiratory development determine whether marine gastropod embryos survive or die in hypoxia. Journal of Experimental Biology, 2016, 219, 1076-85.	1.7	7
113	Effect of an insect juvenile hormone analogue, FenoxycarbÂ® on development and oxygen uptake by larval lobsters Homarus gammarus (L.). Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology, 2009, 149, 393-396.	2.6	6
114	Spectral phenotyping of embryonic development reveals integrative thermodynamic responses. BMC Bioinformatics, 2021, 22, 232.	2.6	6
115	Density-dependent responses of the brittlestar Amphiura filiformis to moderate hypoxia and consequences for nutrient fluxes. Marine Ecology - Progress Series, 2018, 594, 175-191.	1.9	6
116	A mesocosm study investigating the effects of hypoxia and population density on respiration and reproductive biology in the brittlestar Amphiura filiformis. Marine Ecology - Progress Series, 2015, 534, 135-147.	1.9	5
117	Developmental Plasticity and Heterokairy. , 2018, , 73-96.		4
118	Both maternal and embryonic exposure to mild hypoxia influence embryonic development of the intertidal gastropod <i>Littorina littorea</i> (Linnaeus, 1758). Journal of Experimental Biology, 2020, 223, .	1.7	4
119	Evidence for physiological niche expansion of an intertidal flatworm: evolutionary rescue in the wild. Marine Ecology - Progress Series, 2020, 651, 85-95.	1.9	4
120	Gut reaction by heartless shrimps: experimental evidence for the role of the gut in generating circulation before cardiac ontogeny. Biology Letters, 2006, 2, 580-582.	2.3	3
121	The Use of Developmental Sequences for Assessing Evolutionary Change in Gastropods*. American Malacological Bulletin, 2009, 27, 105-111.	0.2	3
122	Disentangling the counteracting effects of water content and carbon mass on zooplankton growth. Journal of Plankton Research, 0, , .	1.8	3
123	Consequences of thermal plasticity for hypoxic performance in coastal amphipods. Marine Environmental Research, 2022, 177, 105624.	2.5	3
124	Physiological changes accompanying the presence of black gill syndrome in the high shore amphipod Traskorchestia traskiana. Journal of Experimental Marine Biology and Ecology, 2013, 446, 131-138.	1.5	2
125	Ontogeny of osmoregulation in the brackishwater amphipod Gammarus chevreuxi. Journal of Experimental Marine Biology and Ecology, 2020, 524, 151312.	1.5	2
126	Alarm substance alters early embryonic development in two Danio species. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2009, 153, S105.	1.8	0

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127	Understanding physiological tolerance through thermal limits of three amphipod species. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2009, 153, S170.	1.8	0