Eric J Warrant

List of Publications by Year
in descending order

125 papers	7,603 citations	53794 45 h-index	66911 78 g-index
140 all docs	140 docs citations	140 times ranked	4360 citing authors

#	Article	IF	Citations
1	Vision in the deep sea. Biological Reviews, 2004, 79, 671-712.	10.4	334
2	Seeing better at night: life style, eye design and the optimum strategy of spatial and temporal summation. Vision Research, 1999, 39, 1611-1630.	1.4	305
3	An Anatomically Constrained Model for Path Integration in the Bee Brain. Current Biology, 2017, 27, 3069-3085.e11.	3.9	290
4	Vision in the dimmest habitats on Earth. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2004, 190, 765-789.	1.6	255
5	Insect orientation to polarized moonlight. Nature, 2003, 424, 33-33.	27.8	252
6	Scotopic colour vision in nocturnal hawkmoths. Nature, 2002, 419, 922-925.	27.8	214
7	Crepuscular and nocturnal illumination and its effects on color perception by the nocturnal hawkmoth <i>Deilephila elpenor</i>. Journal of Experimental Biology, 2006, 209, 789-800.	1.7	202
8	Nocturnal Vision and Landmark Orientation in a Tropical Halictid Bee. Current Biology, 2004, 14, 1309-1318.	3.9	189
9	Absorption of white light in photoreceptors. Vision Research, 1998, 38, 195-207.	1.4	185
10	The energetic cost of vision and the evolution of eyeless Mexican cavefish. Science Advances, 2015, 1, e1500363.	10.3	181
11	Dung Beetles Use the Milky Way for Orientation. Current Biology, 2013, 23, 298-300.	3.9	178
12	Warm Eyes Provide Superior Vision in Swordfishes. Current Biology, 2005, 15, 55-58.	3.9	172
13	Vision and Visual Navigation in Nocturnal Insects. Annual Review of Entomology, 2011, 56, 239-254.	11.8	169
14	Neural coding underlying the cue preference for celestial orientation. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 11395-11400.	7.1	166
15	Retinal and optical adaptations for nocturnal vision in the halictid bee Megalopta genalis. Cell and Tissue Research, 2004, 316, 377-390.	2.9	144
16	Light intensity limits foraging activity in nocturnal and crepuscular bees. Behavioral Ecology, 2006, 17, 63-72.	2.2	135
17	A `bright zone' in male hoverfly (Eristalis tenax) eyes and associated faster motion detection and increased contrast sensitivity. Journal of Experimental Biology, 2006, 209, 4339-4354.	1.7	122
18	Seeing in the dark: vision and visual behaviour in nocturnal bees and wasps. Journal of Experimental Biology, 2008, 211, 1737-1746.	1.7	118

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19	Eyeless Mexican Cavefish Save Energy by Eliminating the Circadian Rhythm in Metabolism. PLoS ONE, 2014, 9, e107877.	2.5	108
20	Colour Vision in Diurnal and Nocturnal Hawkmoths. Integrative and Comparative Biology, 2003, 43, 571-579.	2.0	102
21	Lunar orientation in a beetle. Proceedings of the Royal Society B: Biological Sciences, 2004, 271, 361-365.	2.6	102
22	Superior Underwater Vision in a Human Population of Sea Gypsies. Current Biology, 2003, 13, 833-836.	3.9	101
23	The Earthâ€™s Magnetic Field and Visual Landmarks Steer Migratory Flight Behavior in the Nocturnal Australian Bogong Moth. Current Biology, 2018, 28, 2160-2166.e5.	3.9	94
24	Celestial polarization patterns during twilight. Applied Optics, 2006, 45, 5582.	2.1	88
25	Visual ecology of Indian carpenter bees II: adaptations of eyes and ocelli to nocturnal and diurnal lifestyles. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2009, 195, 571-583.	1.6	87
26	A Unique Advantage for Giant Eyes in Giant Squid. Current Biology, 2012, 22, 683-688.	3.9	85
27	The Australian Bogong Moth Agrotis infusa: A Long-Distance Nocturnal Navigator. Frontiers in Behavioral Neuroscience, 2016, 10, 77.	2.0	80
28	Retinal specializations in the blue marlin: eyes designed for sensitivity to low light levels. Marine and Freshwater Research, 2003, 54, 333.	1.3	79
29	The remarkable visual capacities of nocturnal insects: vision at the limits with small eyes and tiny brains. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160063.	4.0	77
30	Visual cues used by ball-rolling dung beetles for orientation. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2003, 189, 411-418.	1.6	75
31	Adaptive enhancement and noise reduction in very low light-level video. , 2007, , .		75
32	Visual Reliability and Information Rate in the Retina of a Nocturnal Bee. Current Biology, 2008, 18, 349-353.	3.9	74
33	Neural organisation in the first optic ganglion of the nocturnal bee Megalopta genalis. Cell and Tissue Research, 2004, 318, 429-437.	2.9	72
34	Differential investment in visual and olfactory brain areas reflects behavioural choices in hawk moths. Scientific Reports, 2016, 6, 26041.	3.3	72
35	A neural network to improve dim-light vision? Dendritic fields of first-order interneurons in the nocturnal bee Megalopta genalis. Cell and Tissue Research, 2005, 322, 313-320.	2.9	69
36	Visual summation in night-flying sweat bees: A theoretical study. Vision Research, 2006, 46, 2298-2309.	1.4	68

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37	Ocellar optics in nocturnal and diurnal bees and wasps. Arthropod Structure and Development, 2006, 35, 293-305.	1.4	66
38	Visual ecology of Indian carpenter bees I: Light intensities and flight activity. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2008, 194, 97-107.	1.6	66
39	Vision and the light environment. Current Biology, 2013, 23, R990-R994.	3.9	62
40	Visual Navigation in Nocturnal Insects. Physiology, 2016, 31, 182-192.	3.1	60
41	Adaptations for nocturnal and diurnal vision in the hawkmoth lamina. Journal of Comparative Neurology, 2016, 524, 160-175.	1.6	58
42	Auditory opportunity and visual constraint enabled the evolution of echolocation in bats. Nature Communications, 2018, 9, 98.	12.8	57
43	Strategies for retinal design in arthropod eyes of low F-number. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1991, 168, 499-512.	1.6	53
44	Comparative visual function in five sciaenid fishes inhabiting Chesapeake Bay. Journal of Experimental Biology, 2008, 211, 3601-3612.	1.7	53
45	Wide-field motion tuning in nocturnal hawkmoths. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 853-860.	2.6	53
46	Nocturnal insects use optic flow for flight control. Biology Letters, 2011, 7, 499-501.	2.3	53
47	The Dual Function of Orchid Bee Ocelli as Revealed by X-Ray Microtomography. Current Biology, 2016, 26, 1319-1324.	3.9	53
48	Consequences of evolutionary transitions in changing photic environments. Austral Entomology, 2017, 56, 23-46.	1.4	52
49	Visual discrimination: Seeing the third quality of light. Current Biology, 1999, 9, R535-R537.	3.9	50
50	Comparative visual function in four piscivorous fishes inhabiting Chesapeake Bay. Journal of Experimental Biology, 2010, 213, 1751-1761.	1.7	49
51	Effect of light intensity on flight control and temporal properties of photoreceptors in bumblebees. Journal of Experimental Biology, 2015, 218, 1339-46.	1.7	47
52	Neuroarchitecture of the dung beetle central complex. Journal of Comparative Neurology, 2018, 526, 2612-2630.	1.6	47
53	Resolution and sensitivity of the eyes of the Asian honeybees <i>Apis florea, Apis cerana</i> and <i>Apis dorsata</i>. Journal of Experimental Biology, 2009, 212, 2448-2453.	1.7	46
54	The Dung Beetle Dance: An Orientation Behaviour?. PLoS ONE, 2012, 7, e30211.	2.5	42

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55	Flight-induced compass representation in the monarch butterfly heading network. Current Biology, 2022, 32, 338-349.e5.	3.9	42
56	Visual sensitivity in the crepuscular owl butterfly <i>Caligo memnon</i> and the diurnal blue morpho <i>Morpho peleides</i>: a clue to explain the evolution of nocturnal apposition eyes?. Journal of Experimental Biology, 2008, 211, 844-851.	1.7	40
57	Flight performance in night-flying sweat bees suffers at low light levels. Journal of Experimental Biology, 2007, 210, 4034-4042.	1.7	39
58	Visual Orientation and Navigation in Nocturnal Arthropods. Brain, Behavior and Evolution, 2010, 75, 156-173.	1.7	39
59	Ocellar adaptations for dim light vision in a nocturnal bee. Journal of Experimental Biology, 2011, 214, 1283-1293.	1.7	39
60	Anatomical and physiological evidence for polarisation vision in the nocturnal bee Megalopta genalis. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2007, 193, 591-600.	1.6	38
61	Dung beetles ignore landmarks for straight-line orientation. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2013, 199, 17-23.	1.6	38
62	Evidence for a southward autumn migration of nocturnal noctuid moths in central Europe. Journal of Experimental Biology, 2018, 221, .	1.7	37
63	Visual training improves underwater vision in children. Vision Research, 2006, 46, 3443-3450.	1.4	36
64	Form vision in the insect dorsal ocelli: An anatomical and optical analysis of the dragonfly median ocellus. Vision Research, 2007, 47, 1394-1409.	1.4	36
65	Sensory matched filters. Current Biology, 2016, 26, R976-R980.	3.9	33
66	Visual field structure in the Empress Leilia, Asterocampa leilia (Lepidoptera, Nymphalidae): dimensions and regional variation in acuity. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2002, 188, 1-12.	1.6	32
67	Vision in dim light: highlights and challenges. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160062.	4.0	31
68	The brain of a nocturnal migratory insect, the Australian Bogong moth. Journal of Comparative Neurology, 2020, 528, 1942-1963.	1.6	31
69	Form vision in the insect dorsal ocelli: An anatomical and optical analysis of the Locust Ocelli. Vision Research, 2007, 47, 1382-1393.	1.4	29
70	Dung beetles use their dung ball as a mobile thermal refuge. Current Biology, 2012, 22, R863-R864.	3.9	28
71	Comparison of Navigation-Related Brain Regions in Migratory versus Non-Migratory Noctuid Moths. Frontiers in Behavioral Neuroscience, 2017, 11, 158.	2.0	26
72	Higher-order neural processing tunes motion neurons to visual ecology in three species of hawkmoths. Proceedings of the Royal Society B: Biological Sciences, 2017, 284, 20170880.	2.6	25

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73	Moths are strongly attracted to ultraviolet and blue radiation. Insect Conservation and Diversity, 2021, 14, 188-198.	3.0	25
74	Australian Bogong moths <i>Agrotis infusa</i> (Lepidoptera: Noctuidae), 1951â€“2020: decline and crash. Austral Entomology, 2021, 60, 66-81.	1.4	25
75	Adaptations for vision in dim light: impulse responses and bumps in nocturnal spider photoreceptor cells (Cupiennius salei Keys). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2007, 193, 1081-1087.	1.6	24
76	Lens optical properties in the eyes of large marine predatory teleosts. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2009, 195, 175-182.	1.6	24
77	How Dung Beetles Steer Straight. Annual Review of Entomology, 2021, 66, 243-256.	11.8	24
78	Bearing selection in ball-rolling dung beetles: is it constant?. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2010, 196, 801-806.	1.6	23
79	Visual Adaptations for Mate Detection in the Male Carpenter Bee Xylocopa tenuiscapa. PLoS ONE, 2017, 12, e0168452.	2.5	23
80	Flight control and landing precision in the nocturnal bee Megalopta is robust to large changes in light intensity. Frontiers in Physiology, 2015, 6, 305.	2.8	22
81	Polarisation Vision: Beetles See Circularly Polarised Light. Current Biology, 2010, 20, R610-R612.	3.9	21
82	A unified platform to manage, share, and archive morphological and functional data in insect neuroscience. ELife, 2021, 10, .	6.0	21
83	The Remarkable Visual Abilities of Nocturnal Insects: Neural Principles and Bioinspired Night-Vision Algorithms. Proceedings of the IEEE, 2014, 102, 1411-1426.	21.3	20
84	Animal navigation: a noisy magnetic sense?. Journal of Experimental Biology, 2020, 223, .	1.7	20
85	Spatial orientation based on multiple visual cues in non-migratory monarch butterflies. Journal of Experimental Biology, 2020, 223, .	1.7	20
86	Retinal oxygen supply shaped the functional evolution of the vertebrate eye. ELife, 2019, 8, .	6.0	19
87	Hornets Can Fly at Night without Obvious Adaptations of Eyes and Ocelli. PLoS ONE, 2011, 6, e21892.	2.5	18
88	Nocturnal Homing: Learning Walks in a Wandering Spider?. PLoS ONE, 2012, 7, e49263.	2.5	18
89	Spectral sensitivity of a colour changing spider. Journal of Insect Physiology, 2011, 57, 508-513.	2.0	17
90	Large variation among photoreceptors as the basis of visual flexibility in the common backswimmer. Proceedings of the Royal Society B: Biological Sciences, 2014, 281, 20141177.	2.6	17

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91	The optical sensitivity of compound eyes: theory and experiment compared. Biology Letters, 2008, 4, 745-747.	2.3	16
92	Resolving the Trade-off Between Visual Sensitivity and Spatial Acuityâ€"Lessons from Hawkmoths. Integrative and Comparative Biology, 2017, 57, 1093-1103.	2.0	14
93	Bumblebees Perform Well-Controlled Landings in Dim Light. Frontiers in Behavioral Neuroscience, 2016, 10, 174.	2.0	12
94	Wing damage affects flight kinematics but not flower tracking performance in hummingbird hawkmoths. Journal of Experimental Biology, 2021, 224, .	1.7	11
95	Nocturnal bees. Current Biology, 2007, 17, R991-R992.	3.9	10
96	Insect Target Classes Discerned from Entomological Radar Data. Remote Sensing, 2020, 12, 673.	4.0	8
97	Nocturnal Bees as Crop Pollinators. Agronomy, 2021, 11, 1014.	3.0	8
98	Unravelling the enigma of bird magnetoreception. Nature, 2021, 594, 497-498.	27.8	8
99	Potential for identification of wild night-flying moths by remote infrared microscopy. Journal of the Royal Society Interface, 2022, 19, .	3.4	8
100	Visual Ecology: Hiding in the Dark. Current Biology, 2007, 17, R209-R211.	3.9	7
101	Are harbour seals (Phoca vitulina) able to perceive and use polarised light?. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2013, 199, 509-519.	1.6	7
102	A Guide for Using Flight Simulators to Study the Sensory Basis of Long-Distance Migration in Insects. Frontiers in Behavioral Neuroscience, 2021, 15, 678936.	2.0	7
103	Bogong Moths Are Well Camouflaged by Effectively Decolourized Wing Scales. Frontiers in Physiology, 2020, 11, 95.	2.8	6
104	Changes of Acuity during Light and Dark Adaptation in the Dragonfly Compound Eye. Zeitschrift Fur Naturforschung - Section C Journal of Biosciences, 1990, 45, 137-142.	1.4	5
105	Bogong moths. Current Biology, 2016, 26, R263-R265.	3.9	5
106	Dorsal landmark navigation in a Neotropical nocturnal bee. Current Biology, 2021, 31, 3601-3605.e3.	3.9	5
107	Light and Visual Environments. , 2020, , 4-30.		5
108	Mammalian Vision: Rods Are a Bargain. Current Biology, 2009, 19, R69-R71.	3.9	4

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109	Computational models for spatiotemporal filtering strategies in insect motion vision at low light levels. , 2011, , .		4
110	Photoreceptor Evolution: Ancient â€˜Conesâ€™ Turn Out to Be Rods. Current Biology, 2015, 25, R148-R151.	3.9	4
111	Oilbirds. Current Biology, 2017, 27, R1145-R1147.	3.9	4
112	Visual Optics: Remarkable Image-Forming Mirrors inÂScallop Eyes. Current Biology, 2018, 28, R262-R264.	3.9	3
113	Retinal Ganglion Cell Topography and Spatial Resolving Power in Echolocating and Non-Echolocating Bats. Brain, Behavior and Evolution, 2020, 95, 58-68.	1.7	3
114	Visual tracking in the dead of night. Science, 2015, 348, 1212-1213.	12.6	2
115	Superior visual performance in nocturnal insects: neural principles and bio-inspired technologies. Proceedings of SPIE, 2016, , .	0.8	2
116	A new, fluorescence-based method for visualizing the pseudopupil and assessing optical acuity in the dark compound eyes of honeybees and other insects. Scientific Reports, 2021, 11, 21267.	3.3	2
117	Visual Tracking: Hot Pursuit with Tiny Eyes. Current Biology, 2017, 27, R234-R237.	3.9	1
118	Itâ€™s all about seeing and hearing: the Editorsâ€™ and Readersâ€™ Choice Awards 2022. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2022, , 1.	1.6	1
119	Animal Signals: Dirty Dancing in the Dark?. Current Biology, 2019, 29, R834-R836.	3.9	0
120	Cover Image, Volume 528, Issue 11. Journal of Comparative Neurology, 2020, 528, C4.	1.6	0
121	OBSOLETE: Light and Visual Environments. , 2020, , .		0
122	Heading variations resolve the heading-direction ambiguity in vertical-beam radar observations of insect migration. International Journal of Remote Sensing, 2021, 42, 3873-3898.	2.9	0
123	Editorial. Arthropod Structure and Development, 2021, 63, 101073.	1.4	0
124	Desert Navigator: The Journey of an Ant. By RÃ¼diger Wehner. Belknap Press. Cambridge (Massachusetts): Harvard University Press. $59.95. vii + 392 p.; ill.; index. ISBN: 9780674045880. 2020.. Quarterly Review of Biology, 2020, 95, 327-328.	0.1	0
125	Mike Land: a personal remembrance. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2022, 208, 345-347.	1.6	0