Almut Kelber

List of Publications by Year
in descending order

136 papers	7,279 citations	57719 44 h-index	69214 77 g-index
143 all docs	143 docs citations	143 times ranked	4542 citing authors

#	Article	IF	Citations
1	Animal colour visionÂâ€“Âbehavioural tests and physiological concepts. Biological Reviews, 2003, 78, 81-118.	4.7	731
2	The biology of color. Science, 2017, 357, .	6.0	509
3	Scotopic colour vision in nocturnal hawkmoths. Nature, 2002, 419, 922-925.	13.7	214
4	Crepuscular and nocturnal illumination and its effects on color perception by the nocturnal hawkmoth Deilephila elpenor. Journal of Experimental Biology, 2006, 209, 789-800.	0.8	202
5	Nocturnal Vision and Landmark Orientation in a Tropical Halictid Bee. Current Biology, 2004, 14, 1309-1318.	1.8	189
6	Evolution of Insect Color Vision: From Spectral Sensitivity to Visual Ecology. Annual Review of Entomology, 2021, 66, 435-461.	5.7	174
7	From spectral information to animal colour vision: experiments and concepts. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 1617-1625.	1.2	161
8	Chromatic and achromatic vision: parameter choice and limitations for reliable model predictions. Behavioral Ecology, 2018, 29, 273-282.	1.0	150
9	Nocturnal colour vision â€“ not as rare as we might think. Journal of Experimental Biology, 2006, 209, 781-788.	0.8	149
10	Colour spaces in ecology and evolutionary biology. Biological Reviews, 2017, 92, 292-315.	4.7	142
11	Light intensity limits foraging activity in nocturnal and crepuscular bees. Behavioral Ecology, 2006, 17, 63-72.	1.0	135
12	Bird colour vision: behavioural thresholds reveal receptor noise. Journal of Experimental Biology, 2015, 218, 184-193.	0.8	126
13	The relative importance of olfaction and vision in a diurnal and a nocturnal hawkmoth. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2006, 192, 431-437.	0.7	124
14	Why â€˜falseâ€™ colours are seen by butterflies. Nature, 1999, 402, 251-251.	13.7	112
15	Color discrimination in the red range with only one long-wavelength sensitive opsin. Journal of Experimental Biology, 2006, 209, 1944-1955.	0.8	107
16	Colour Vision in Diurnal and Nocturnal Hawkmoths. Integrative and Comparative Biology, 2003, 43, 571-579.	0.9	102
17	Why do Manduca sexta feed from white flowers? Innate and learnt colour preferences in a hawkmoth. Die Naturwissenschaften, 2008, 95, 569-576.	0.6	102
18	Thresholds and noise limitations of colour vision in dim light. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160065.	1.8	98

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19	The retrieval of visuo-spatial memories by honeybees. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1988, 163, 145-150.	0.7	89
20	Nocturnal colour vision in geckos. Proceedings of the Royal Society B: Biological Sciences, 2004, 271, S485-7.	1.2	87
21	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.	0.7	87
22	Ultraviolet vision in birds: the importance of transparent eye media. Proceedings of the Royal Society B: Biological Sciences, 2014, 281, 20132209.	1.2	86
23	Polarisation-dependent colour vision in<i>Papilio</i>butterflies. Journal of Experimental Biology, 2001, 204, 2469-2480.	0.8	86
24	Avian colour vision: Effects of variation in receptor sensitivity and noise data on model predictions as compared to behavioural results. Vision Research, 2009, 49, 1939-1947.	0.7	76
25	The Absolute Threshold of Colour Vision in the Horse. PLoS ONE, 2008, 3, e3711.	1.1	75
26	Ultraviolet sensitivity and colour vision in raptor foraging. Journal of Experimental Biology, 2013, 216, 1819-1826.	0.8	73
27	Differential investment in visual and olfactory brain areas reflects behavioural choices in hawk moths. Scientific Reports, 2016, 6, 26041.	1.6	72
28	The dual rod system of amphibians supports colour discrimination at the absolute visual threshold. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160066.	1.8	72
29	True Colour Vision in the Orchard Butterfly, Papilio aegeus. Die Naturwissenschaften, 1999, 86, 221-224.	0.6	71
30	Receptor based models for spontaneous colour choices in flies and butterflies. Entomologia Experimentalis Et Applicata, 2001, 99, 231-244.	0.7	68
31	The spatial tuning of achromatic and chromatic vision in budgerigars. Journal of Vision, 2011, 11, 2-2.	0.1	68
32	A functional analysis of compound eye evolution. Arthropod Structure and Development, 2007, 36, 373-385.	0.8	67
33	Nocturnal bees learn landmark colours in starlight. Current Biology, 2008, 18, R996-R997.	1.8	67
34	Ocellar optics in nocturnal and diurnal bees and wasps. Arthropod Structure and Development, 2006, 35, 293-305.	0.8	66
35	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.	0.7	66
36	Pattern discrimination in a hawkmoth: innate preferences, learning performance and ecology. Proceedings of the Royal Society B: Biological Sciences, 2002, 269, 2573-2577.	1.2	61

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37	Opsins in Onychophora (Velvet Worms) Suggest a Single Origin and Subsequent Diversification of Visual Pigments in Arthropods. Molecular Biology and Evolution, 2012, 29, 3451-3458.	3.5	61
38	Patterns and Processes in Nocturnal and Crepuscular Pollination Services. Quarterly Review of Biology, 2016, 91, 389-418.	0.0	56
39	The contribution of single and double cones to spectral sensitivity in budgerigars during changing light conditions. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2014, 200, 197-207.	0.7	54
40	Colour constancy in diurnal and nocturnal hawkmoths. Journal of Experimental Biology, 2004, 207, 3307-3316.	0.8	52
41	Trichromatic colour vision in the hummingbird hawkmoth, Macroglossum stellatarum L.. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1999, 184, 535-541.	0.7	51
42	Alternative use of chromatic and achromatic cues in a hawkmoth. Proceedings of the Royal Society B: Biological Sciences, 2005, 272, 2143-2147.	1.2	50
43	Brightness Discrimination in Budgerigars (Melopsittacus undulatus). PLoS ONE, 2013, 8, e54650.	1.1	50
44	Ground-nesting bees determine the location of their nest relative to a landmark by other than angular size cues. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1994, 175, 363.	0.7	49
45	Visual adaptations of diurnal and nocturnal raptors. Seminars in Cell and Developmental Biology, 2020, 106, 116-126.	2.3	47
46	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.	0.8	46
47	Luminance-dependence of spatial vision in budgerigars (Melopsittacus undulatus) and Bourkeâ€™s parrots (Neopsephotus bourkii). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2012, 198, 69-77.	0.7	46
48	Colour preferences influences odour learning in the hawkmoth, Macroglossum stellatarum. Die Naturwissenschaften, 2006, 93, 255-258.	0.6	45
49	Multifocal optical systems and pupil dynamics in birds. Journal of Experimental Biology, 2008, 211, 2752-2758.	0.8	45
50	Complementary shifts in photoreceptor spectral tuning unlock the full adaptive potential of ultraviolet vision in birds. ELife, 2016, 5, .	2.8	45
51	The intensity threshold of colour vision in two species of parrot. Journal of Experimental Biology, 2009, 212, 3693-3699.	0.8	43
52	Out of the blue: the spectral sensitivity of hummingbird hawkmoths. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2014, 200, 537-546.	0.7	43
53	Bird colour vision â€“ from cones to perception. Current Opinion in Behavioral Sciences, 2019, 30, 34-40.	2.0	43
54	Differential fitness effects of moonlight on plumage colour morphs in barn owls. Nature Ecology and Evolution, 2019, 3, 1331-1340.	3.4	43

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55	The lycaenid butterfly <i>Polyommatus icarus</i> uses a duplicated blue opsin to see green. Journal of Experimental Biology, 2008, 211, 361-369.	0.8	41
56	Coevolution of coloration and colour vision?. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160338.	1.8	41
57	Visual abilities in two raptors with different ecology. Journal of Experimental Biology, 2016, 219, 2639-49.	0.8	39
58	FLORAL BIOLOGY OF NORTH AMERICAN OENOTHERA SECT. LAVAUXIA (ONAGRACEAE): ADVERTISEMENTS, REWARDS, AND EXTREME VARIATION IN FLORAL DEPTH1,2. Annals of the Missouri Botanical Garden, 2007, 94, 236-257.	1.3	38
59	Colour in the eye of the beholder: receptor sensitivities and neural circuits underlying colour opponency and colour perception. Current Opinion in Neurobiology, 2016, 41, 106-112.	2.0	38
60	Specialized photoreceptor composition in the raptor fovea. Journal of Comparative Neurology, 2017, 525, 2152-2163.	0.9	38
61	Limits of colour vision in dim light. Ophthalmic and Physiological Optics, 2010, 30, 454-459.	1.0	37
62	Optics of cone photoreceptors in the chicken (<i>Gallus gallus domesticus</i>). Journal of the Royal Society Interface, 2015, 12, 20150591.	1.5	37
63	Fuelling on the wing: sensory ecology of hawkmoth foraging. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2019, 205, 399-413.	0.7	36
64	High resolution of colour vision, but low contrast sensitivity in a diurnal raptor. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20181036.	1.2	35
65	Eye Size, Fovea, and Foraging Ecology in Accipitriform Raptors. Brain, Behavior and Evolution, 2017, 90, 232-242.	0.9	34
66	Brightness discrimination in the harbor seal (Phoca vitulina). Vision Research, 2008, 48, 96-103.	0.7	33
67	Retinal ganglion cell topography and spatial resolution of two parrot species: budgerigar (Melopsittacus undulatus) and Bourkeâ€™s parrot (Neopsephotus bourkii). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2014, 200, 371-384.	0.7	33
68	SPONTANEOUS AND LEARNED PREFERENCES FOR VISUAL FLOWER FEATURES IN A DIURNAL HAWKMOTH. Israel Journal of Plant Sciences, 1997, 45, 235-245.	0.3	32
69	The pupils and optical systems of gecko eyes. Journal of Vision, 2009, 9, 27-27.	0.1	32
70	Owls lack UV-sensitive cone opsin and red oil droplets, but see UV light at night: Retinal transcriptomes and ocular media transmittance. Vision Research, 2019, 158, 109-119.	0.7	32
71	An aposematic colourâ€polymorphic moth seen through the eyes of conspecifics and predators â€“ Sensitivity and colour discrimination in a tiger moth. Functional Ecology, 2018, 32, 1797-1809.	1.7	31
72	Pterin-pigmented nanospheres create the colours of the polymorphic damselfly <i>Ischnura elegans</i>. Journal of the Royal Society Interface, 2019, 16, 20180785.	1.5	31

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73	Innate colour preferences of a hawkmoth depend on visual context. Biology Letters, 2019, 15, 20180886.	1.0	31
74	Chromatic Signals Control Proboscis Movements during Hovering Flight in the Hummingbird Hawkmoth Macroglossum stellatarum. PLoS ONE, 2012, 7, e34629.	1.1	30
75	The Eye of the Common Octopus (Octopus vulgaris). Frontiers in Physiology, 2019, 10, 1637.	1.3	30
76	Flexible responses to visual and olfactory stimuli by foraging<i>Manduca sexta</i>: larval nutrition affects adult behaviour. Proceedings of the Royal Society B: Biological Sciences, 2009, 276, 2739-2745.	1.2	29
77	Colour Vision: Parallel Pathways Intersect in Drosophila. Current Biology, 2013, 23, R1043-R1045.	1.8	28
78	How fast can raptors see?. Journal of Experimental Biology, 2019, 223, .	0.8	28
79	Multiple leading edge vortices of unexpected strength in freely flying hawkmoth. Scientific Reports, 2013, 3, 3264.	1.6	27
80	The roles of vision and antennal mechanoreception in hawkmoth flight control. ELife, 2018, 7, .	2.8	27
81	Spectral sensitivity in Onychophora (velvet worms) revealed by electroretinograms, phototactic behaviour and opsin gene expression. Journal of Experimental Biology, 2015, 218, 915-922.	0.8	25
82	Spatial Vision in Bombus terrestris. Frontiers in Behavioral Neuroscience, 2016, 10, 17.	1.0	25
83	Quantitative studies of animal colour constancy: using the chicken as model. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20160411.	1.2	25
84	Sugar preferences and feeding strategies in the hawkmoth Macroglossum stellatarum. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2003, 189, 661-666.	0.7	24
85	A Model of Selection between Stimulus and Place Strategy in a Hawkmoth. Adaptive Behavior, 2004, 12, 21-35.	1.1	24
86	How does a diurnal hawkmoth find nectar? Differences in sensory control with a nocturnal relative. Behavioral Ecology, 2011, 22, 976-984.	1.0	24
87	Why do seals have cones? Behavioural evidence for colour-blindness in harbour seals. Animal Cognition, 2015, 18, 551-560.	0.9	23
88	Wavelength discrimination in the hummingbird hawkmoth Macroglossum stellatarum. Journal of Experimental Biology, 2016, 219, 553-60.	0.8	23
89	Visual Adaptations for Mate Detection in the Male Carpenter Bee Xylocopa tenuiscapa. PLoS ONE, 2017, 12, e0168452.	1.1	23
90	Vision on the high seas: spatial resolution and optical sensitivity in two procellariiform seabirds with different foraging strategies. Journal of Experimental Biology, 2016, 219, 3329-3338.	0.8	22

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91	A robust procedure for visual stabilisation of hovering flight position in guard bees of Trigona (Tetragonisca) angustula (Apidae, Meliponinae). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1990, 167, 569.	0.7	21
92	A harbor seal can transfer the same/different concept to new stimulus dimensions. Animal Cognition, 2013, 16, 915-925.	0.9	21
93	Spatial Vision and Visually Guided Behavior in Apidae. Insects, 2019, 10, 418.	1.0	20
94	Colour perception in a dichromat. Journal of Experimental Biology, 2007, 210, 2795-2800.	0.8	19
95	Ultraviolet sensitivity and colour vision in raptor foraging. Journal of Experimental Biology, 2013, 216, 3764-3764.	0.8	19
96	Stimulus motion improves spatial contrast sensitivity in budgerigars (Melopsittacus undulatus). Vision Research, 2014, 102, 19-25.	0.7	19
97	Visual acuity in an opportunistic raptor, the chimango caracara (Milvago chimango). Physiology and Behavior, 2016, 157, 125-128.	1.0	18
98	The flicker fusion frequency of budgerigars (Melopsittacus undulatus) revisited. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2017, 203, 15-22.	0.7	18
99	Hornets Can Fly at Night without Obvious Adaptations of Eyes and Ocelli. PLoS ONE, 2011, 6, e21892.	1.1	18
100	Vision: Rods See in Bright Light. Current Biology, 2018, 28, R364-R366.	1.8	16
101	Differences in spatial resolution and contrast sensitivity of flight control in the honeybees <i>Apis cerana</i> and <i>Apis mellifera</i>. Journal of Experimental Biology, 2018, 221, .	0.8	16
102	High contrast sensitivity for visually guided flight control in bumblebees. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2017, 203, 999-1006.	0.7	15
103	Tetragonisca guard bees interpret expanding and contracting patterns as unintended displacement in space. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1997, 181, 257-265.	0.7	14
104	What a hawkmoth remembers after hibernation depends on innate preferences and conditioning situation. Behavioral Ecology, 2010, 21, 1093-1097.	1.0	14
105	Development of the Visual System in a Burrow-Nesting Seabird: Leach's Storm Petrel. Brain, Behavior and Evolution, 2018, 91, 4-16.	0.9	13
106	Lens transmittance shapes ultraviolet sensitivity in the eyes of frogs from diverse ecological and phylogenetic backgrounds. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20192253.	1.2	13
107	Nocturnal Bees Feed on Diurnal Leftovers and Pay the Price of Day â€“ Night Lifestyle Transition. Frontiers in Ecology and Evolution, 2020, 8, .	1.1	11
108	Inter-individual differences in foveal shape in a scavenging raptor, the black kite Milvus migrans. Scientific Reports, 2020, 10, 6133.	1.6	11

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109	Achromatic Cues Are Important for Flower Visibility to Hawkmoths and Other Insects. Frontiers in Ecology and Evolution, 2022, 10, .	1.1	10
110	Unexpectedly low UV-sensitivity in a bird, the budgerigar. Biology Letters, 2014, 10, 20140670.	1.0	9
111	Spatial summation improves bird color vision in low light intensities. Vision Research, 2017, 130, 1-8.	0.7	9
112	Lens and cornea limit UV vision of birds â€“ a phylogenetic perspective. Journal of Experimental Biology, 2021, 224, .	0.8	9
113	Single target acuity is not higher than grating acuity in a bird, the budgerigar. Vision Research, 2019, 160, 37-42.	0.7	8
114	Light, flight and the night: effect of ambient light and moon phase on flight activity of pteropodid bats. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2021, 207, 59-68.	0.7	8
115	Humidity-dependent colour change in the green forester moth,<i>Adscita statices</i>. Biology Letters, 2019, 15, 20190516.	1.0	7
116	Differences in ocular media transmittance among classical frog model species and its impact on visual sensitivity. Journal of Experimental Biology, 2019, 222, .	0.8	6
117	12. Eyes and vision. , 2003, , 325-360.		4
118	Linking brain and behaviour in animal navigation: navigation from genes to maps. Journal of Experimental Biology, 2019, 222, .	0.8	4
119	SinnesÃ¶kologie der Futteraufnahme des TaubenschwÃnzchens Macroglossum stellatarum (Lepidoptera: Sphingidae). Entomologia Generalis, 2007, 29, 97-110.	1.1	4
120	Seeing the world through the eyes of a butterfly: visual ecology of the territorial males of Pararge aegeria (Lepidoptera: Nymphalidae). Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2021, 207, 701-713.	0.7	4
121	How Do Hawkmoths Learn Multimodal Stimuli? A Comparison of Three Models. Adaptive Behavior, 2008, 16, 349-360.	1.1	3
122	Models for a colorful reality?: a response to comments on Olsson et al.. Behavioral Ecology, 2018, 29, 287-288.	1.0	3
123	Birds perceive colours in categories. Nature, 2018, 560, 311-312.	13.7	3
124	The Pupillary Response of the Common Octopus (Octopus vulgaris). Frontiers in Physiology, 2020, 11, 1112.	1.3	3
125	Spatial resolution and sensitivity of the eyes of the stingless bee, Tetragonula iridipennis. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2022, 208, 225-238.	0.7	3
126	Evolution of Color Vision. , 2016, , 317-354.		2

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127	Relative colour cues improve colour constancy in birds. Journal of Experimental Biology, 2017, 220, 1797-1802.	0.8	2
128	Chicken colour discrimination depends on background colour. Journal of Experimental Biology, 2020, 223, .	0.8	2
129	Visual acuity of budgerigars for moving targets. Biology Open, 2021, 10, .	0.6	2
130	Modelling Multi-modal Learning in a Hawkmoth. Lecture Notes in Computer Science, 2006, , 422-433.	1.0	2
131	Colour Vision: Random Retina of Butterflies Explained. Current Biology, 2016, 26, R900-R902.	1.8	1
132	Infrared Imaging: A Motion Detection Circuit forÂRattlesnake Thermal Vision. Current Biology, 2019, 29, R403-R405.	1.8	1
133	Falconiformes Sensory Systems. , 2021, , 1-6.		0
134	Accipitriformes Sensory Systems. , 2021, , 1-6.		0
135	Falconiformes Sensory Systems. , 2022, , 2619-2623.		0
136	Accipitriformes Sensory Systems. , 2022, , 24-29.		0