Markus Knaden

List of Publications by Year
in descending order

90 papers	4,754 citations	87888 38 h-index	118850 62 g-index
111 all docs	111 docs citations	111 times ranked	3600 citing authors

#	Article	IF	Citations
1	Evolutionary neuroecology of olfactoryâ€mediated sexual communication and host specialization in <i>Drosophila</i> â€“ a review. Entomologia Experimentalis Et Applicata, 2022, 170, 289-302.	1.4	7
2	Competing beetles attract egg laying in a hawkmoth. Current Biology, 2022, 32, 861-869.e8.	3.9	17
3	Human Impacts on Insect Chemical Communication in the Anthropocene. Frontiers in Ecology and Evolution, 2022, 10, .	2.2	7
4	Functional olfactory evolution in Drosophila suzukii and the subgenus Sophophora. IScience, 2022, 25, 104212.	4.1	12
5	Fast Learners: One Trial Olfactory Learning in Insects. Frontiers in Ecology and Evolution, 2022, 10, .	2.2	4
6	Variation in Manduca sexta Pollination-Related Floral Traits and Reproduction in a Wild Tobacco Plant. Frontiers in Ecology and Evolution, 2021, 9, .	2.2	1
7	Large-scale characterization of sex pheromone communication systems in Drosophila. Nature Communications, 2021, 12, 4165.	12.8	48
8	Host Plant Constancy in Ovipositing Manduca sexta. Journal of Chemical Ecology, 2021, 47, 1042-1048.	1.8	5
9	Moths sense but do not learn flower odors with their proboscis during flower investigation. Journal of Experimental Biology, 2021, 224, .	1.7	5
10	The Molecular Basis of Host Selection in a Crucifer-Specialized Moth. Current Biology, 2020, 30, 4476-4482.e5.	3.9	67
11	Pollination in the Anthropocene: a Moth Can Learn Ozone-Altered Floral Blends. Journal of Chemical Ecology, 2020, 46, 987-996.	1.8	25
12	Insect Host Choice: Donâ€™t Put All the Eggs in One Basket. Current Biology, 2020, 30, R1363-R1365.	3.9	0
13	Navigation: How the Recent Past Shapes Future Routes in Desert Ants. Current Biology, 2020, 30, R435-R437.	3.9	1
14	Variable dependency on associated yeast communities influences host range in <i>Drosophila</i> species. Oikos, 2020, 129, 964-982.	2.7	18
15	Olfactory receptor and circuit evolution promote host specialization. Nature, 2020, 579, 402-408.	27.8	131
16	Mate discrimination among subspecies through a conserved olfactory pathway. Science Advances, 2020, 6, eaba5279.	10.3	41
17	Functional integration of â€œundeadâ€•neurons in the olfactory system. Science Advances, 2020, 6, eaaz7238.	10.3	31
18	Divergent sensory investment mirrors potential speciation via niche partitioning across Drosophila. ELife, 2020, 9, .	6.0	14

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19	Drosophila melanogaster chemical ecology revisited: 2-D distribution maps of sex pheromones on whole virgin and mated flies by mass spectrometry imaging. BMC Zoology, 2020, 5, .	1.0	2
20	Plant-Based Natural Product Chemistry for Integrated Pest Management of Drosophila suzukii. Journal of Chemical Ecology, 2019, 45, 626-637.	1.8	19
21	An unbiased approach elucidates variation in (<i>S</i>)-(+)-linalool, a context-specific mediator of a tri-trophic interaction in wild tobacco. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14651-14660.	7.1	41
22	Optimization of Insect Odorant Receptor Trafficking and Functional Expression Via Transient Transfection in HEK293 Cells. Chemical Senses, 2019, 44, 673-682.	2.0	10
23	Mutagenesis of odorant coreceptor <i>Orco</i> fully disrupts foraging but not oviposition behaviors in the hawkmoth <i>Manduca sexta</i>. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15677-15685.	7.1	80
24	Gut microbiota affects development and olfactory behavior in <i>Drosophila melanogaster</i>. Journal of Experimental Biology, 2019, 222, .	1.7	68
25	Acetoin, a key odor for resource location in the giant robber crab, <i>Birgus latro</i>. Journal of Experimental Biology, 2019, 222, .	1.7	2
26	Inverse resource allocation between vision and olfaction across the genus Drosophila. Nature Communications, 2019, 10, 1162.	12.8	80
27	Odor mixtures of opposing valence unveil inter-glomerular crosstalk in the Drosophila antennal lobe. Nature Communications, 2019, 10, 1201.	12.8	58
28	The olfactory coreceptor IR8a governs larval feces-mediated competition avoidance in a hawkmoth. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 21828-21833.	7.1	73
29	Flower movement balances pollinator needs and pollen protection. Ecology, 2019, 100, e02553.	3.2	20
30	Learning and processing of navigational cues in the desert ant. Current Opinion in Neurobiology, 2019, 54, 140-145.	4.2	9
31	Spatial Representation of Feeding and Oviposition Odors in the Brain of a Hawkmoth. Cell Reports, 2018, 22, 2482-2492.	6.4	53
32	Desert ants possess distinct memories for food and nest odors. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10470-10474.	7.1	23
33	Evaluation of the DREAM Technique for a High-Throughput Deorphanization of Chemosensory Receptors in Drosophila. Frontiers in Molecular Neuroscience, 2018, 11, 366.	2.9	22
34	The Olfactory Logic behind Fruit Odor Preferences in Larval and Adult Drosophila. Cell Reports, 2018, 23, 2524-2531.	6.4	50
35	Combinatorial Codes and Labeled Lines: How Insects Use Olfactory Cues to Find and Judge Food, Mates, and Oviposition Sites in Complex Environments. Frontiers in Physiology, 2018, 9, 49.	2.8	130
36	Floral Trait Variations Among Wild Tobacco Populations Influence the Foraging Behavior of Hawkmoth Pollinators. Frontiers in Ecology and Evolution, 2018, 6, .	2.2	17

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37	Potencies of effector genes in silencing odor-guided behavior in Drosophila melanogaster. Journal of Experimental Biology, 2017, 220, 1812-1819.	1.7	2
38	Tissue-Specific Emission of (E)-Î±-Bergamotene Helps Resolve the Dilemma When Pollinators Are Also Herbivores. Current Biology, 2017, 27, 1336-1341.	3.9	67
39	Pathogenic bacteria enhance dispersal through alteration of Drosophila social communication. Nature Communications, 2017, 8, 265.	12.8	54
40	Homing Ants Get Confused When Nest Cues Are Also Route Cues. Current Biology, 2017, 27, 3706-3710.e2.	3.9	13
41	Electrical synapses mediate synergism between pheromone and food odors in <i>Drosophila melanogaster</i>. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E9962-E9971.	7.1	54
42	Hawkmoths evaluate scenting flowers with the tip of their proboscis. ELife, 2016, 5, .	6.0	56
43	How ants send signals in saliva. ELife, 2016, 5, .	6.0	0
44	Intracellular regulation of the insect chemoreceptor complex impacts odor localization in flying insects. Journal of Experimental Biology, 2016, 219, 3428-3438.	1.7	37
45	Adult Frass Provides a Pheromone Signature for Drosophila Feeding and Aggregation. Journal of Chemical Ecology, 2016, 42, 739-747.	1.8	52
46	Innate olfactory preferences for flowers matching proboscis length ensure optimal energy gain in a hawkmoth. Nature Communications, 2016, 7, 11644.	12.8	48
47	The Sensory Ecology of Ant Navigation: From Natural Environments to Neural Mechanisms. Annual Review of Entomology, 2016, 61, 63-76.	11.8	97
48	Olfactory channels associated with the Drosophila maxillary palp mediate short- and long-range attraction. ELife, 2016, 5, .	6.0	59
49	High-resolution Quantification of Odor-guided Behavior in Drosophila melanogaster Using the Flywalk Paradigm. Journal of Visualized Experiments, 2015, , e53394.	0.3	3
50	Drosophila Avoids Parasitoids by Sensing Their Semiochemicals via a Dedicated Olfactory Circuit. PLoS Biology, 2015, 13, e1002318.	5.6	145
51	Pheromones mediating copulation and attraction in <i>Drosophila</i>. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E2829-35.	7.1	231
52	Olfactory Specialization in Drosophila suzukii Supports an Ecological Shift in Host Preference from Rotten to Fresh Fruit. Journal of Chemical Ecology, 2015, 41, 121-128.	1.8	179
53	Functional loss of yeast detectors parallels transition to herbivory. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2927-2928.	7.1	3
54	Desert ants use olfactory scenes for navigation. Animal Behaviour, 2015, 106, 99-105.	1.9	51

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55	Egocentric and geocentric navigation during extremely long foraging paths of desert ants. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2015, 201, 609-616.	1.6	41
56	Mapping odor valence in the brain of flies and mice. Current Opinion in Neurobiology, 2014, 24, 34-38.	4.2	35
57	Desert Ants Locate Food by Combining High Sensitivity to Food Odors with Extensive Crosswind Runs. Current Biology, 2014, 24, 960-964.	3.9	84
58	Mass spectrometry imaging of surface lipids on intact <i>Drosophila melanogaster</i> flies. Journal of Mass Spectrometry, 2014, 49, 223-232.	1.6	30
59	Compound valence is conserved in binary odor mixtures in <i>Drosophila melanogaster</i>. Journal of Experimental Biology, 2014, 217, 3645-55.	1.7	28
60	Decoding odor quality and intensity in the Drosophila brain. ELife, 2014, 3, e04147.	6.0	135
61	Specialized But Flexible. Science, 2013, 339, 151-152.	12.6	1
62	Plant Species- and Status-specific Odorant Blends Guide Oviposition Choice in the Moth Manduca sexta. Chemical Senses, 2013, 38, 147-159.	2.0	53
63	Flexible weighing of olfactory and vector information in the desert ant <i>Cataglyphis fortis</i>. Biology Letters, 2013, 9, 20130070.	2.3	13
64	The CCHamide 1 receptor modulates sensory perception and olfactory behavior in starved Drosophila. Scientific Reports, 2013, 3, 2765.	3.3	64
65	Intraspecific Combinations of Flower and Leaf Volatiles Act Together in Attracting Hawkmoth Pollinators. PLoS ONE, 2013, 8, e72805.	2.5	24
66	Host Plant Odors Represent Immiscible Information Entities - Blend Composition and Concentration Matter in Hawkmoths. PLoS ONE, 2013, 8, e77135.	2.5	20
67	Sense of achievement. ELife, 2013, 2, e01605.	6.0	1
68	Transition from sea to land: olfactory function and constraints in the terrestrial hermit crab<i>Coenobita clypeatus</i>. Proceedings of the Royal Society B: Biological Sciences, 2012, 279, 3510-3519.	2.6	38
69	A high-throughput behavioral paradigm for Drosophila olfaction - The Flywalk. Scientific Reports, 2012, 2, 361.	3.3	78
70	A Conserved Dedicated Olfactory Circuit for Detecting Harmful Microbes in Drosophila. Cell, 2012, 151, 1345-1357.	28.9	533
71	Spatial Representation of Odorant Valence in an Insect Brain. Cell Reports, 2012, 1, 392-399.	6.4	181
72	Desert Ants Learn Vibration and Magnetic Landmarks. PLoS ONE, 2012, 7, e33117.	2.5	47

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73	Path Integration Controls Nest-Plume Following in Desert Ants. Current Biology, 2012, 22, 645-649.	3.9	72
74	A novel multicomponent stimulus device for use in olfactory experiments. Journal of Neuroscience Methods, 2011, 195, 1-9.	2.5	83
75	Desert ants benefit from combining visual and olfactory landmarks. Journal of Experimental Biology, 2011, 214, 1307-1312.	1.7	79
76	Towards plant-odor-related olfactory neuroethology in Drosophila. Chemoecology, 2010, 20, 51-61.	1.1	28
77	Do desert ants smell the scenery in stereo?. Animal Behaviour, 2010, 79, 939-945.	1.9	66
78	A Deceptive Pollination System Targeting Drosophilids through Olfactory Mimicry of Yeast. Current Biology, 2010, 20, 1846-1852.	3.9	165
79	The Neural and Behavioral Basis of Chemical Communication in Terrestrial Crustaceans. , 2010, , 149-173.		6
80	Smells like home: Desert ants, Cataglyphis fortis, use olfactory landmarks to pinpoint the nest. Frontiers in Zoology, 2009, 6, 5.	2.0	110
81	Fundamental difference in life history traits of two species of Cataglyphis ants. Frontiers in Zoology, 2006, 3, 21.	2.0	13
82	Desert ants: is active locomotion a prerequisite for path integration?. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2006, 192, 1125-1131.	1.6	11
83	The importance of procedural knowledge in desert-ant navigation. Current Biology, 2006, 16, R916-R917.	3.9	17
84	Ant navigation: resetting the path integrator. Journal of Experimental Biology, 2006, 209, 26-31.	1.7	61
85	Uncertainty about nest position influences systematic search strategies in desert ants. Journal of Experimental Biology, 2006, 209, 3545-3549.	1.7	101
86	Phylogeny of three parapatric species of desert ants, Cataglyphis bicolor, C. viatica, and C. savignyi: A comparison of mitochondrial DNA, nuclear DNA, and morphological data. Zoology, 2005, 108, 169-177.	1.2	17
87	Nest mark orientation in desert ants Cataglyphis: what does it do to the path integrator?. Animal Behaviour, 2005, 70, 1349-1354.	1.9	50
88	Path Integration in Desert Ants Controls Aggressiveness. Science, 2004, 305, 60-60.	12.6	22
89	Nest Defense and Conspecific Enemy Recognition in the Desert Ant Cataglyphis fortis. Journal of Insect Behavior, 2003, 16, 717-730.	0.7	54
90	Unique neural coding of crucial versus irrelevant plant odors in a hawkmoth. ELife, 0, 11, .	6.0	5