Spencer T Behmer

List of Publications by Year
in descending order

81 papers	4,584 citations	126907 33 h-index	106344 65 g-index
85 all docs	85 docs citations	85 times ranked	3699 citing authors

#	Article	IF	Citations
1	Insect Herbivore Nutrient Regulation. Annual Review of Entomology, 2009, 54, 165-187.	11.8	640
2	Optimal foraging when regulating intake of multiple nutrients. Animal Behaviour, 2004, 68, 1299-1311.	1.9	480
3	Insect Sterol Nutrition and Physiology: A Global Overview. Advances in Insect Physiology, 2003, 31, 1-72.	2.7	206
4	Coexisting generalist herbivores occupy unique nutritional feeding niches. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 1977-1982.	7.1	204
5	A geometric analysis of nutrient regulation in the generalist caterpillar Spodoptera littoralis (Boisduval). Journal of Insect Physiology, 2002, 48, 655-665.	2.0	149
6	Importance of dietary nitrogen and carbohydrates to survival, growth, and reproduction in adults of the grasshopper Ageneotettix deorum (Orthoptera: Acrididae). Oecologia, 1997, 112, 201-208.	2.0	148
7	HERBIVORE FORAGING IN CHEMICALLY HETEROGENEOUS ENVIRONMENTS: NUTRIENTS AND SECONDARY METABOLITES. Ecology, 2002, 83, 2489-2501.	3.2	143
8	State-Dependent Learned Valuation Drives Choice in an Invertebrate. Science, 2006, 311, 1613-1615.	12.6	141
9	Not just the usual suspects: Insect herbivore populations and communities are associated with multiple plant nutrients. Ecology, 2012, 93, 1002-1015.	3.2	130
10	Evolving resistance to obesity in an insect. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 14045-14049.	7.1	128
11	Metal hyperaccumulation in plants: mechanisms of defence against insect herbivores. Functional Ecology, 2005, 19, 55-66.	3.6	113
12	Colony-level macronutrient regulation in ants: mechanisms, hoarding and associated costs. Animal Behaviour, 2010, 79, 429-437.	1.9	100
13	Impact of diet quality on demographic attributes in adult grasshoppers and the nitrogen limitation hypothesis. Ecological Entomology, 1998, 23, 174-184.	2.2	93
14	A correlation between macronutrient balancing and insect host-plant range: evidence from the specialist caterpillar Spodoptera exempta (Walker). Journal of Insect Physiology, 2003, 49, 1161-1171.	2.0	90
15	Lifetime consequences of food proteinâ€carbohydrate content for an insect herbivore. Functional Ecology, 2014, 28, 1135-1143.	3.6	89
16	Effects of Protein and Carbohydrate on an Insect Herbivore: The Vista from a Fitness Landscape. Integrative and Comparative Biology, 2014, 54, 942-954.	2.0	78
17	Frequency-dependent food selection in locusts: a geometric analysis of the role of nutrient balancing. Animal Behaviour, 2001, 61, 995-1005.	1.9	65
18	Nutrient regulation in relation to diet breadth: a comparison of Heliothis sister species and a hybrid. Journal of Experimental Biology, 2006, 209, 2076-2084.	1.7	64

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19	Water stress in grasslands: dynamic responses of plants and insect herbivores. Oikos, 2015, 124, 381-390.	2.7	62
20	Insect Sterol Nutrition: Physiological Mechanisms, Ecology, and Applications. Annual Review of Entomology, 2020, 65, 251-271.	11.8	61
21	Food distance and its effect on nutrient balancing in a mobile insect herbivore. Animal Behaviour, 2003, 66, 665-675.	1.9	49
22	Same Host-Plant, Different Sterols: Variation in Sterol Metabolism in an Insect Herbivore Community. Journal of Chemical Ecology, 2009, 35, 1309-1319.	1.8	47
23	Plant sterols and host plant suitability for a phloem-feeding insect. Functional Ecology, 2011, 25, 484-491.	3.6	47
24	Microbial Symbionts Shape the Sterol Profile of the Xylem-Feeding Woodwasp, Sirex noctilio. Journal of Chemical Ecology, 2013, 39, 129-139.	1.8	47
25	Impact of dietary sterols on life-history traits of a caterpillar. Physiological Entomology, 1998, 23, 165-175.	1.5	45
26	The nutritional significance of sterol metabolic constraints in the generalist grasshopper Schistocerca americana. Journal of Insect Physiology, 1999, 45, 339-348.	2.0	45
27	Nutrition affects insect susceptibility to Bt toxins. Scientific Reports, 2017, 7, 39705.	3.3	45
28	Three hundred and fifty generations of extreme food specialisation: testing predictions of nutritional ecology. Entomologia Experimentalis Et Applicata, 2009, 132, 65-75.	1.4	40
29	Nutritional physiology of life history trade-offs: how food protein-carbohydrate content influences life-history traits in the wing-polymorphic cricket<i>Gryllus firmus</i>. Journal of Experimental Biology, 2015, 218, 298-308.	1.7	40
30	Sterol Metabolic Constraints as a Factor Contributing to the Maintenance of Diet Mixing in Grasshoppers (Orthoptera: Acrididae). Physiological and Biochemical Zoology, 2000, 73, 219-230.	1.5	39
31	Sterol/steroid metabolism and absorption in a generalist and specialist caterpillar: Effects of dietary sterol/steroid structure, mixture and ratio. Insect Biochemistry and Molecular Biology, 2013, 43, 580-587.	2.7	39
32	Plant phloem sterol content: forms, putative functions, and implications for phloem-feeding insects. Frontiers in Plant Science, 2013, 4, 370.	3.6	39
33	Foraging by generalist grasshoppers: two different strategies. Animal Behaviour, 1996, 52, 155-165.	1.9	38
34	Revisiting macronutrient regulation in the polyphagous herbivore Helicoverpa zea (Lepidoptera:) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 1	2.0	35
35	Seasonality Directs Contrasting Food Collection Behavior and Nutrient Regulation Strategies in Ants. PLoS ONE, 2011, 6, e25407.	2.5	34
36	Dietary sterols/steroids and the generalist caterpillar Helicoverpa zea: Physiology, biochemistry and midgut gene expression. Insect Biochemistry and Molecular Biology, 2012, 42, 835-845.	2.7	33

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37	The physiology of sterol nutrition in the pea aphid Acyrthosiphon pisum. Journal of Insect Physiology, 2012, 58, 1383-1389.	2.0	32
38	Prey nutrient content creates omnivores out of predators. Ecology Letters, 2019, 22, 275-283.	6.4	32
39	Nutrition as a neglected factor in insect herbivore susceptibility to Bt toxins. Current Opinion in Insect Science, 2016, 15, 97-103.	4.4	30
40	The influence of proline on diet selection: sex-specific feeding preferences by the grasshoppers Ageneotettix deorum and Phoetaliotes nebrascensis (Orthoptera: Acrididae). Oecologia, 1994, 98, 76-82.	2.0	29
41	Phytosterol metabolism and absorption in the generalist grasshopper,Schistocerca americana (Orthoptera: Acrididae). Archives of Insect Biochemistry and Physiology, 1999, 42, 13-25.	1.5	29
42	Spatio-Temporal, Genotypic, and Environmental Effects on Plant Soluble Protein and Digestible Carbohydrate Content: Implications for Insect Herbivores with Cotton as an Exemplar. Journal of Chemical Ecology, 2016, 42, 1151-1163.	1.8	29
43	Long-Chain n-3 Fatty Acids Attenuate Oncogenic KRas-Driven Proliferation by Altering Plasma Membrane Nanoscale Proteolipid Composition. Cancer Research, 2018, 78, 3899-3912.	0.9	29
44	Variable rewards and discrimination ability in an insect herbivore: what and how does a hungry locust learn?. Journal of Experimental Biology, 2005, 208, 3463-3473.	1.7	28
45	Macronutrient Regulation in the Tropical Terrestrial Ant <i>Ectatomma ruidum</i> (Formicidae): A Field Study in Costa Rica. Biotropica, 2010, 42, 135-139.	1.6	28
46	Animal Behaviour: Feeding the Superorganism. Current Biology, 2009, 19, R366-R368.	3.9	27
47	Nutrient regulation strategies differ between cricket morphs that tradeâ€off dispersal and reproduction. Functional Ecology, 2013, 27, 1126-1133.	3.6	27
48	Diet micronutrient balance matters: How the ratio of dietary sterols/steroids affects development, growth and reproduction in two lepidopteran insects. Journal of Insect Physiology, 2014, 67, 85-96.	2.0	26
49	Overturning dogma: tolerance of insects to mixed-sterol diets is not universal. Current Opinion in Insect Science, 2017, 23, 89-95.	4.4	26
50	Plant sterols and host plant suitability for generalist and specialist caterpillars. Journal of Insect Physiology, 2012, 58, 235-244.	2.0	24
51	Summer and fall ants have different physiological responses to food macronutrient content. Journal of Insect Physiology, 2016, 87, 35-44.	2.0	24
52	Structural, tribological, and mechanical properties of the hind leg joint of a jumping insect: Using katydids to inform bioinspired lubrication systems. Acta Biomaterialia, 2017, 62, 284-292.	8.3	23
53	Phytosterol structure and its impact on feeding behaviour in the generalist grasshopperSchistocerca americana. Physiological Entomology, 1999, 24, 18-27.	1.5	22
54	Behavioural correlates of phenotypic plasticity in mouthpart chemoreceptor numbers in locusts. Journal of Insect Physiology, 2004, 50, 725-736.	2.0	22

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55	The relationship between body mass and elemental composition in nymphs of the grasshopper Schistocerca americana. Journal of Orthoptera Research, 2008, 17, 307-313.	1.0	21
56	Assessing pollen nutrient content: a unifying approach for the study of bee nutritional ecology. Philosophical Transactions of the Royal Society B: Biological Sciences, 2022, 377, 20210510.	4.0	21
57	Effects of diet quality on performance and nutrient regulation in an omnivorous katydid. Ecological Entomology, 2011, 36, 471-479.	2.2	17
58	Quantifying Plant Soluble Protein and Digestible Carbohydrate Content, Using Corn (<em>Zea) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	0.3	17
59	Food mixing strategies in the desert locust: effects of phase, distance between foods, and food nutrient content. Entomologia Experimentalis Et Applicata, 2002, 103, 227-237.	1.4	16
60	Metabolic rate is canalized in the face of variable life history and nutritional environment. Functional Ecology, 2016, 30, 922-931.	3.6	16
61	Macronutrient regulation in the Rasberry crazy ant (Nylanderia sp. nr. pubens). Insectes Sociaux, 2012, 59, 93-100.	1.2	14
62	A Dietary Test of Putative Deleterious Sterols for the Aphid Myzus persicae. PLoS ONE, 2014, 9, e86256.	2.5	14
63	Physiological Status Drives Metabolic Rate in Mediterranean Geckos Infected with Pentastomes. PLoS ONE, 2015, 10, e0144477.	2.5	13
64	Evaluation of a Microbial Inhibitor in Artificial Diets of a Generalist Caterpillar,<i>Heliothis virescens</i>. Journal of Insect Science, 2010, 10, 1-12.	1.5	11
65	Protein-carbohydrate regulation in Helicoverpa amigera and H. punctigera and how diet protein-carbohydrate content affects insect susceptibility to Bt toxins. Journal of Insect Physiology, 2018, 106, 88-95.	2.0	9
66	Aphid growth and reproduction on plants with altered sterol profiles: Novel insights using Arabidopsis mutant and overexpression lines. Journal of Insect Physiology, 2020, 123, 104054.	2.0	8
67	Stability of AtVSP in the insect digestive canal determines its defensive capability. Journal of Insect Physiology, 2011, 57, 391-399.	2.0	7
68	First evidence of protein-carbohydrate regulation in a plant bug (Lygus hesperus). Journal of Insect Physiology, 2019, 116, 118-124.	2.0	6
69	Herbivory improves the fitness of predatory beetles. Journal of Animal Ecology, 2020, 89, 2473-2484.	2.8	6
70	Effects of Diet on Titratable Acidâ€Base Excretion in Grasshoppers. Physiological and Biochemical Zoology, 2000, 73, 66-76.	1.5	5
71	The importance of dissolved N:P ratios on mayfly (Baetis spp.) growth in high-nutrient detritus-based streams. Hydrobiologia, 2015, 742, 15-26.	2.0	5
72	Lipogenesis in a wing-polymorphic cricket: Canalization versus morph-specific plasticity as a function of nutritional heterogeneity. Journal of Insect Physiology, 2016, 95, 118-132.	2.0	5

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73	Predator Performance and Fitness Is Dictated by Herbivore Prey Type Plus Indirect Effects of their Host Plant. Journal of Chemical Ecology, 2021, 47, 877-888.	1.8	4
74	Omnivory in predatory lady beetles is widespread and driven by an appetite for sterols. Functional Ecology, 2022, 36, 458-470.	3.6	4
75	Investigation of mechanical properties of tibia and femur articulations of insect joints with different joint functions. MRS Communications, 2019, 9, 900-903.	1.8	3
76	Quantity versus quality: Effects of diet protein-carbohydrate ratios and amounts on insect herbivore gene expression. Insect Biochemistry and Molecular Biology, 2022, 145, 103773.	2.7	3
77	Proteinâ€“carbohydrate regulation and nutritionally mediated responses to Bt are affected by caterpillar population history. Pest Management Science, 2021, 77, 335-342.	3.4	1
78	HERBIVORE FORAGING IN CHEMICALLY HETEROGENEOUS ENVIRONMENTS: NUTRIENTS AND SECONDARY METABOLITES. , 2002, 83, 2489.		1
79	Effect of queen number on colony-level nutrient regulation, food collection and performance in two polygynous ant species. Journal of Insect Physiology, 2022, 138, 104365.	2.0	1
80	Editorial overview: Molecular physiology of the multifunctional insect gut. Current Opinion in Insect Science, 2020, 41, iv.	4.4	0
81	Insect Dietary Needs: Plants as Food for Insects. , 2004, , 1-4.		0