Thomas C Sparks

List of Publications by Year
in descending order

91 papers	7,283 citations	57719 44 h-index	56687 83 g-index
94 all docs	94 docs citations	94 times ranked	4338 citing authors

#	Article	IF	Citations
1	IRAC: Mode of action classification and insecticide resistance management. Pesticide Biochemistry and Physiology, 2015, 121, 122-128.	1.6	862
2	Spinosad - a case study: an example from a natural products discovery programme. Pest Management Science, 2000, 56, 696-702.	1.7	393
3	Discovery and Characterization of Sulfoxaflor, a Novel Insecticide Targeting Sap-Feeding Pests. Journal of Agricultural and Food Chemistry, 2011, 59, 2950-2957.	2.4	295
4	A rapid assay for insect juvenile hormone esterase activity. Analytical Biochemistry, 1977, 82, 573-579.	1.1	276
5	Sulfoxaflor and the sulfoximine insecticides: Chemistry, mode of action and basis for efficacy on resistant insects. Pesticide Biochemistry and Physiology, 2013, 107, 1-7.	1.6	269
6	Natural products as insecticides: the biology, biochemistry and quantitative structure-activity relationships of spinosyns and spinosoids. Pest Management Science, 2001, 57, 896-905.	1.7	256
7	Natural products for pest control: an analysis of their role, value and future. Pest Management Science, 2014, 70, 1169-1185.	1.7	227
8	Insecticides, biologics and nematicides: Updates to IRACâ€™s mode of action classification - a tool for resistance management. Pesticide Biochemistry and Physiology, 2020, 167, 104587.	1.6	223
9	Insecticide discovery: An evaluation and analysis. Pesticide Biochemistry and Physiology, 2013, 107, 8-17.	1.6	188
10	Biological characterization of sulfoxaflor, a novel insecticide. Pest Management Science, 2011, 67, 328-334.	1.7	176
11	Perspectives on the agrochemical industry and agrochemical discovery. Pest Management Science, 2017, 73, 672-677.	1.7	176
12	Biological Activity of the Spinosyns, New Fermentation Derived Insect Control Agents, on Tobacco Budworm (Lepidoptera: Noctuidae) Larvae. Journal of Economic Entomology, 1998, 91, 1277-1283.	0.8	175
13	Natural products, their derivatives, mimics and synthetic equivalents: role in agrochemical discovery. Pest Management Science, 2017, 73, 700-715.	1.7	159
14	Resistance and cross-resistance to the spinosyns â€“ A review and analysis. Pesticide Biochemistry and Physiology, 2012, 102, 1-10.	1.6	150
15	Novel nicotinic action of the sulfoximine insecticide sulfoxaflor. Insect Biochemistry and Molecular Biology, 2011, 41, 432-439.	1.2	142
16	A spinosyn-sensitive Drosophila melanogaster nicotinic acetylcholine receptor identified through chemically induced target site resistance, resistance gene identification, and heterologous expression. Insect Biochemistry and Molecular Biology, 2010, 40, 376-384.	1.2	120
17	Haemolymph juvenile hormone esterase activity in synchronous last instar larvae of the cabbage looper, Trichoplusia ni. Journal of Insect Physiology, 1979, 25, 125-132.	0.9	112
18	The haemolymph juvenile hormone esterase of Manduca sexta (L.)â€”inhibition and regulation. Insect Biochemistry, 1983, 13, 529-541.	1.8	110

#	ARTICLE	IF	CITATIONS
19	Neural network-based QSAR and insecticide discovery: spinetoram. Journal of Computer-Aided Molecular Design, 2008, 22, 393-401.	1.3	103
20	Crossâ€resistance relationships of the sulfoximine insecticide sulfoxaflor with neonicotinoids and other insecticides in the whiteflies <i>Bemisia tabaci</i> and Trialeurodes vaporariorum. Pest Management Science, 2013, 69, 809-813.	1.7	99
21	Trifluoromethylketones as possible transition state analog inhibitors of juvenile hormone esterase. Pesticide Biochemistry and Physiology, 1982, 17, 76-88.	1.6	97
22	Detoxification of plant toxins by insects. Insect Biochemistry, 1983, 13, 453-468.	1.8	97
23	The role of behavior in insecticide resistance. Pest Management Science, 1989, 26, 383-399.	0.6	96
24	Comparative inhibition of the juvenile hormone esterases from Trichoplusia ni, Tenebrio molitor, and Musca domestica. Pesticide Biochemistry and Physiology, 1980, 14, 290-302.	1.6	94
25	Insecticide resistance management and industry: the origins and evolution of the <scp>I</scp>nsecticide <scp>R</scp>esistance <scp>A</scp>ction <scp>C</scp>ommittee (<scp>IRAC</scp>) and the mode of action classification scheme. Pest Management Science, 2021, 77, 2609-2619.	1.7	90
26	The distribution of juvenile hormone esterase and its interrelationship with other proteins influencing juvenile hormone metabolism in the cabbage looper, Trichoplusia ni. Insect Biochemistry, 1981, 11, 473-485.	1.8	87
27	Recent advances in the chemistry of spinosyns. Pest Management Science, 2001, 57, 177-185.	1.7	84
28	The new age of insecticide discovery-the crop protection industry and the impact of natural products. Pesticide Biochemistry and Physiology, 2019, 161, 12-22.	1.6	81
29	Induction and regulation of juvenile hormone esterases during the last larval instar of the cabbage looper, Trichoplusia ni. Journal of Insect Physiology, 1979, 25, 551-560.	0.9	79
30	Temperature-Toxicity Relationships of Pyrethroids on Three Lepidopterans. Journal of Economic Entomology, 1982, 75, 643-646.	0.8	77
31	A comparison of the induced and naturally occurring juvenile hormone esterases from last instar larvae of Trichoplusia ni. Insect Biochemistry, 1979, 9, 411-421.	1.8	68
32	Structure Simplification of Natural Products as a Lead Generation Approach in Agrochemical Discovery. Journal of Agricultural and Food Chemistry, 2021, 69, 8324-8346.	2.4	68
33	Physicochemical property guidelines for modern agrochemicals. Pest Management Science, 2018, 74, 1979-1991.	1.7	67
34	Natural products: a strategic lead generation approach in crop protection discovery. Pest Management Science, 2019, 75, 2301-2309.	1.7	61
35	Growth of Larval Diatraea saccharalis (Lepidoptera: Pyralidae) on an Artificial Diet and Synchronization of the Last Larval Stadium1. Annals of the Entomological Society of America, 1982, 75, 421-429.	1.3	60
36	Temperature-Toxicity Relationships of Pyrethroids on Heliothis virescens (F.) (Lepidoptera: Noctuidae) and Anthonomus grandis grandis Boheman (Coleoptera: Curculionidae). Journal of Economic Entomology, 1983, 76, 243-246.	0.8	59

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37	Differential metabolism of sulfoximine and neonicotinoid insecticides by Drosophila melanogaster monooxygenase CYP6G1. Pesticide Biochemistry and Physiology, 2012, 103, 159-165.	1.6	50
38	Natural product derived insecticides: discovery and development of spinetoram. Journal of Industrial Microbiology and Biotechnology, 2016, 43, 185-193.	1.4	49
39	Effects of mutations in Drosophila nicotinic acetylcholine receptor subunits on sensitivity to insecticides targeting nicotinic acetylcholine receptors. Pesticide Biochemistry and Physiology, 2012, 102, 56-60.	1.6	48
40	Selective inhibition of JH esterases from cockroach hemolymph. Pesticide Biochemistry and Physiology, 1977, 7, 517-530.	1.6	47
41	Spectrum of Insecticide Cross-resistance in Pyrethroid-resistant Populations of Haematobia irritans (Diptera: Muscidae). Journal of Economic Entomology, 1985, 78, 768-773.	0.8	47
42	Engineering of the Spinosyn PKS:Â Directing Starter Unit Incorporation. Journal of Natural Products, 2006, 69, 1702-1710.	1.5	47
43	Discovery of the butenyl-spinosyn insecticides: Novel macrolides from the new bacterial strain Saccharopolyspora pogona. Bioorganic and Medicinal Chemistry, 2009, 17, 4185-4196.	1.4	47
44	Biology of the Soybean Looper, Pseudoplusia includens1: Characterization of Last-Stage Larvae. Annals of the Entomological Society of America, 1981, 74, 531-535.	1.3	46
45	Behavioral Resistance to the Pyrethroids in the Horn Fly, Haematobia irritans (Diptera: Muscidae). Environmental Entomology, 1985, 14, 873-880.	0.7	46
46	Molecular modeling of sulfoxaflor and neonicotinoid binding in insect nicotinic acetylcholine receptors: impact of the <i>Myzus Î²</i>1 <scp>R81T</scp> mutation. Pest Management Science, 2016, 72, 1467-1474.	1.7	43
47	Role of nicotinic acetylcholine receptor subunits in the mode of action of neonicotinoid, sulfoximine and spinosyn insecticides in Drosophila melanogaster. Insect Biochemistry and Molecular Biology, 2021, 131, 103547.	1.2	43
48	The spinosyns, spinosad, spinetoram, and synthetic spinosyn mimics â€•discovery, exploration, and evolution of a natural product chemistry and the impact of computational tools. Pest Management Science, 2021, 77, 3637-3649.	1.7	39
49	Impact of natural products on discovery of, and innovation in, crop protection compounds. Pest Management Science, 2022, 78, 399-408.	1.7	39
50	Evaluation and Development of Spinosyns to Control Ectoparasites on Cattle and Sheep. Current Topics in Medicinal Chemistry, 2002, 2, 675-699.	1.0	36
51	Characterization of a nicotinic acetylcholine receptor binding site for sulfoxaflor, a new sulfoximine insecticide for the control of sap-feeding insect pests. Pesticide Biochemistry and Physiology, 2017, 143, 90-94.	1.6	34
52	Crop protection compounds â€“ trends andâ€‚perspective. Pest Management Science, 2021, 77, 3608-3616.	1.7	34
53	Sulfoxaflor â€“ A sulfoximine insecticide: Review and analysis of mode of action, resistance and cross-resistance. Pesticide Biochemistry and Physiology, 2021, 178, 104924.	1.6	34
54	Effects of juvenile hormone I and the anti-juvenile hormone fluoromevalono-lactone on development and juvenile hormone esterase activity in post-feeding last-stadium larvae of Trichoplusia ni (HÃ¼bner). Journal of Insect Physiology, 1984, 30, 225-234.	0.9	31

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55	Nicotinic Acetylcholine Receptors as Spinosyn Targets for Insect Pest Management. Advances in Insect Physiology, 2013, , 101-210.	1.1	31
56	Purification and kinetics of juvenile hormone esterase from the cabbage looper, Trichoplusia ni (Hubner). Insect Biochemistry, 1983, 13, 129-136.	1.8	30
57	Enhanced pyrethroid hydrolysis in pyrethroid-resistant larvae of the tobacco budworm, Heliothis virescens (F.). Pesticide Biochemistry and Physiology, 1987, 28, 9-16.	1.6	30
58	Insecticide Toxicity to the Soybean Looper and the Velvetbean Caterpillar (Lepidoptera: Noctuidae) as Influenced by Feeding on Resistant Soybean (PI 227687) Leaves and Coumestrol. Journal of Economic Entomology, 1988, 81, 1288-1294.	0.8	29
59	Variation in Resistance of Field Populations of Tobacco Budworm and Bollworm (Lepidoptera:) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	0.8	29
60	Crop Protection Discovery: Is Being the First Best?. Journal of Agricultural and Food Chemistry, 2018, 66, 10337-10346.	2.4	29
61	Juvenile hormone esterase activity in the plasma and body tissue during the larval and adult stages of the house cricket. Insect Biochemistry, 1987, 17, 751-758.	1.8	27
62	Pharmacological characterization of dopamine receptors in the corpus allatum of Manduca sexta larvae. Insect Biochemistry and Molecular Biology, 2000, 30, 755-766.	1.2	27
63	Effect of Temperature on Toxicity and Knockdown Activity of cis-Permethrin, Esfenvalerate, and Î»-Cyhalothrin in the Cabbage Looper (Lepidoptera: Noctuidae). Journal of Economic Entomology, 1990, 83, 342-346.	0.8	26
64	Lead generation in crop protection research: a portfolio approach to agrochemical discovery. Pest Management Science, 2017, 73, 678-685.	1.7	26
65	Characterization of the plasma juvenile hormone esterase in synchronous last stadium female larvae of the sugar cane borer, Diatraea saccharalis (F.). Insect Biochemistry, 1983, 13, 163-170.	1.8	25
66	Synthesis and biological activity of 2-(4,5-dihydroisoxazol-5-yl)-1,3,4-oxadiazoles. Bioorganic and Medicinal Chemistry Letters, 2009, 19, 5796-5798.	1.0	25
67	Effects of the anti hormone-hormone mimic ETB on the induction of insect juvenile hormone esterase in. Life Sciences, 1979, 25, 445-450.	2.0	24
68	Inhibition and substrate specificity of the haemolymph juvenile hormone esterase of the cabbage looper, Trichoplusia ni (HÃ¼bner). Insect Biochemistry, 1983, 13, 633-640.	1.8	23
69	Characterization of a Trans-permethrin hydrolyzing enzyme from the midgut of Pseudoplusia includens (Walker). Pesticide Biochemistry and Physiology, 1986, 25, 73-81.	1.6	23
70	Influence of Treatment Technique on the Temperature-Toxicity Relationships of cis- and trans-Permethrin in the Cabbage Looper (Lepidoptera: Noctuidae). Journal of Economic Entomology, 1988, 81, 115-118.	0.8	22
71	Insecticide Mixtures as an Approach to the Management of Pyrethroid-resistant Horn Flies (Diptera:) Tj ETQq1 1 0.784314 rgBT /Over	0.8	20
72	SAR studies directed toward the pyridine moiety of the sap-feeding insecticide sulfoxaflor (Isoclastâ„¢) Tj ETQq0 0 0 rgBT /Overlock 10 T	1.4	20

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73	Inhibition of trans-permethrin hydrolysis in Pseudoplusia includens (Walker) and use of inhibitors as dyrethroid synergists. Pesticide Biochemistry and Physiology, 1987, 27, 237-245.	1.6	19
74	Pyrethroid-Synergist Mixtures: Toxicity, Resistance, and Field Efficacy Toward Pyrethroid-Resistant Horn Flies (Diptera: Muscidae). Journal of Economic Entomology, 1988, 81, 1567-1574.	0.8	19
75	3-(Arylthiomethyl)isoxazole-4,5-dicarboxamides: Chemoselective Nucleophilic Chemistry and Insecticidal Activity. Journal of Agricultural and Food Chemistry, 2009, 57, 7422-7426.	2.4	18
76	Glycosylation engineering of spinosyn analogues containing an l-olivose moiety. Organic and Biomolecular Chemistry, 2009, 7, 1705.	1.5	18
77	The Application of Artificial Neural Networks to the Identification of New Spinosoids with Improved Biological Activity toward Larvae of Heliothis virescens. Pesticide Biochemistry and Physiology, 2000, 67, 187-197.	1.6	17
78	Modification of the butenyl-spinosyns utilizing cross-metathesis. Bioorganic and Medicinal Chemistry, 2009, 17, 4197-4205.	1.4	16
79	De Novo Design of Potent, Insecticidal Synthetic Mimics of the Spinosyn Macrolide Natural Products. Scientific Reports, 2018, 8, 4861.	1.6	16
80	Innovation in insecticide discovery: Approaches to the discovery of new classes of insecticides. Pest Management Science, 2022, 78, 3226-3247.	1.7	15
81	Agrochemical Discovery - Building the Next Generation of Insect Control Agents. ACS Symposium Series, 2017, , 1-17.	0.5	14
82	Sulfoxaflor efficacy in the laboratory against imidacloprid-resistant and susceptible populations of the green peach aphid, Myzus persicae: Impact of the R81T mutation in the nicotinic acetylcholine receptor. Pesticide Biochemistry and Physiology, 2020, 166, 104582.	1.6	14
83	Discovery of highly insecticidal synthetic spinosyn mimicsÂâ€“ÂCAMD enabled <i>de novo</i> design simplifying a complex natural product. Pest Management Science, 2019, 75, 309-313.	1.7	13
84	Cover Image, Volume 75, Issue 9. Pest Management Science, 2019, 75, i-i.	1.7	11
85	Synthesis and Insecticidal Activity of Spinosyns with C9-<i>O</i>-Benzyl Bioisosteres in Place of the 2â€²,3â€²,4â€²-Tri-<i>O</i>-methyl Rhamnose. Journal of Agricultural and Food Chemistry, 2015, 63, 5571-5577.	2.4	9
86	Intellectual property in entomology: Analysis and perspective on recent trends in global patent publications. Pest Management Science, 2020, 76, 1603-1611.	1.7	8
87	High-Throughput Screening in Agrochemical Research. , 2013, , 1-20.		7
88	East meets west: regional impact on agrochemical discovery and innovation. Pest Management Science, 2021, 77, 4211-4223.	1.7	5
89	Innovations in Agrochemical Discovery and the Role of Metabolism, Bioavailability and Formulations. Pest Management Science, 2017, 73, 655-657.	1.7	4
90	Cover Image, Volume 73, Issue 4. Pest Management Science, 2017, 73, i-i.	1.7	0

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91	Cover Image, Volume 75, Issue 2. Pest Management Science, 2019, 75, i-i.	1.7	0