Richard D Newcomb

List of Publications by Year
in descending order

106 papers	6,536 citations	40 h-index (76294)	77 g-index (69214)
110 all docs	110 docs citations	110 times ranked	7195 citing authors

#	Article	IF	Citations
1	Sex pheromone receptors of the light brown apple moth, Epiphyas postvittana, support a second major pheromone receptor clade within the Lepidoptera. Insect Biochemistry and Molecular Biology, 2022, 141, 103708.	1.2	15
2	The Genomics and Population Genomics of the Light Brown Apple Moth, Epiphyas postvittana, an Invasive Tortricid Pest of Horticulture. Insects, 2022, 13, 264.	1.0	5
3	Olfactory genomics and biotechnology in insect control. , 2021, , 645-674.		1
4	Assessing genome assembly quality prior to downstream analysis: N50 versus BUSCO. Molecular Ecology Resources, 2021, 21, 1416-1421.	2.2	28
5	Divergent Gene Expression Following Duplication of Meiotic Genes in the Stick Insect Clitarchus hookeri. Genome Biology and Evolution, 2021, 13, .	1.1	1
6	The tuatara genome reveals ancient features of amniote evolution. Nature, 2020, 584, 403-409.	13.7	105
7	Flexibility of the petunia strigolactone receptor DAD2 promotes its interaction with signaling partners. Journal of Biological Chemistry, 2020, 295, 4181-4193.	1.6	19
8	New Zealand Tree and Giant WÄ“tÄ•(Orthoptera) Transcriptomics Reveal Divergent Selection Patterns in Metabolic Loci. Genome Biology and Evolution, 2019, 11, 1293-1306.	1.1	6
9	Estimating the biodiversity of terrestrial invertebrates on a forested island using DNA barcodes and metabarcoding data. Ecological Applications, 2019, 29, e01877.	1.8	37
10	Impacts of DNA extraction and PCR on DNA metabarcoding estimates of soil biodiversity. Methods in Ecology and Evolution, 2019, 10, 120-133.	2.2	62
11	Biochemical Genetics and Genomics of Insect Esterases. , 2019, , .		3
12	The potential for the use of gene drives for pest control in New Zealand: a perspective. Journal of the Royal Society of New Zealand, 2018, 48, 225-244.	1.0	66
13	Differential gene expression in the evolution of sex pheromone communication in New Zealandâ€™s endemic leafroller moths of the genera Ctenopseustis and Planotortrix. BMC Genomics, 2018, 19, 94.	1.2	18
14	Pest Control Compounds Targeting Insect Chemoreceptors: Another Silent Spring?. Frontiers in Ecology and Evolution, 2017, 5, .	1.1	23
15	Characterization of Odorant Receptors from a Non-ditrysian Moth, Eriocrania semipurpurella Sheds Light on the Origin of Sex Pheromone Receptors in Lepidoptera. Molecular Biology and Evolution, 2017, 34, 2733-2746.	3.5	59
16	Assembling large genomes: analysis of the stick insect (Clitarchus hookeri) genome reveals a high repeat content and sex-biased genes associated with reproduction. BMC Genomics, 2017, 18, 884.	1.2	21
17	Positive selection and comparative molecular evolution of reproductive proteins from New Zealand tree weta (Orthoptera, Hemideina). PLoS ONE, 2017, 12, e0188147.	1.1	4
18	Analysis of the genome of the New Zealand giant collembolan (Holacanthella duospinosa) sheds light on hexapod evolution. BMC Genomics, 2017, 18, 795.	1.2	28

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19	A Sex Pheromone Receptor in the Hessian Fly Mayetiola destructor (Diptera, Cecidomyiidae). Frontiers in Cellular Neuroscience, 2016, 10, 212.	1.8	38
20	De Novo Transcriptome Analysis of the Common New Zealand Stick Insect Clitarchus hookeri (Phasmatodea) Reveals Genes Involved in Olfaction, Digestion and Sexual Reproduction. PLoS ONE, 2016, 11, e0157783.	1.1	18
21	Improving odorant chemical class prediction with multi-layer perceptrons using temporal odorant spike responses from drosophila melanogaster olfactory receptor neurons. , 2016, 2016, 6393-6396.		1
22	Odorant Receptors of the New Zealand Endemic Leafroller Moth Species Planotortrix octo and P. excessana. PLoS ONE, 2016, 11, e0152147.	1.1	17
23	The Context of Chemical Communication Driving a Mutualism. Journal of Chemical Ecology, 2015, 41, 929-936.	0.9	14
24	Insect olfaction and the evolution of receptor tuning. Frontiers in Ecology and Evolution, 2015, 3, .	1.1	139
25	The Peripheral Olfactory Repertoire of the Lightbrown Apple Moth, Epiphyas postvittana. PLoS ONE, 2015, 10, e0128596.	1.1	57
26	Towards an understanding of the structural basis for insect olfaction by odorant receptors. Insect Biochemistry and Molecular Biology, 2015, 66, 31-41.	1.2	69
27	Using Multilayer Perceptron Computation to Discover Ideal Insect Olfactory Receptor Combinations in the Mosquito and Fruit Fly for an Efficient Electronic Nose. Neural Computation, 2015, 27, 171-201.	1.3	7
28	Advances in the Identification and Characterization of Olfactory Receptors in Insects. Progress in Molecular Biology and Translational Science, 2015, 130, 55-80.	0.9	78
29	Pheromone Receptor Evolution in the Cryptic Leafroller Species, Ctenopseustis obliquana and C. herana. Journal of Molecular Evolution, 2015, 80, 42-56.	0.8	36
30	Evaluating a multigene environmental DNA approach for biodiversity assessment. GigaScience, 2015, 4, 46.	3.3	122
31	Mutational Analysis of Cysteine Residues of the Insect Odorant Co-receptor (Orco) from Drosophila melanogaster Reveals Differential Effects on Agonist- and Odorant-tuning Receptor-dependent Activation. Journal of Biological Chemistry, 2014, 289, 31837-31845.	1.6	25
32	Artificial Neural Network prediction of specific VOCs and blended VOCs for various concentrations from the olfactory receptor firing rates of Drosophila melanogaster. , 2014, 2014, 3232-5.		2
33	“Super E-Noses”: Multi-layer perceptron classification of volatile odorants from the firing rates of cross-species olfactory receptor arrays. , 2014, 2014, 954-7.		5
34	A Novel Fatty Acyl Desaturase from the Pheromone Glands of Ctenopseustis obliquana and C. herana with Specific Z5-Desaturase Activity on Myristic Acid. Journal of Chemical Ecology, 2014, 40, 63-70.	0.9	32
35	Odor memories regulate olfactory receptor expression in the sensory periphery. European Journal of Neuroscience, 2014, 39, 1642-1654.	1.2	68
36	A novel method to study insect olfactory receptor function using HEK293Âcells. Insect Biochemistry and Molecular Biology, 2014, 54, 22-32.	1.2	50

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37	Niche construction initiates the evolution of mutualistic interactions. Ecology Letters, 2014, 17, 1257-1264.	3.0	109
38	Divergent transcriptional responses to low temperature among populations of alpine and lowland species of <scp>N</scp>ew <scp>Z</scp>ealand stick insects (<i><scp>M</scp>icrarchus</i>). Molecular Ecology, 2014, 23, 2712-2726.	2.0	37
39	Sensory characterisation of food and beverage stimuli containing Î²-ionone and differences between individuals by genotype for rs6591536. Food Research International, 2014, 62, 205-214.	2.9	9
40	A Mendelian Trait for Olfactory Sensitivity Affects Odor Experience and Food Selection. Current Biology, 2013, 23, 1601-1605.	1.8	164
41	Identification of Regions Associated with Variation in Sensitivity to Food-Related Odors in the Human Genome. Current Biology, 2013, 23, 1596-1600.	1.8	93
42	Positive selection in glycolysis among Australasian stick insects. BMC Evolutionary Biology, 2013, 13, 215.	3.2	25
43	Identification of cold-responsive genes in a New Zealand alpine stick insect using RNA-Seq. Comparative Biochemistry and Physiology Part D: Genomics and Proteomics, 2013, 8, 24-31.	0.4	32
44	Insights into subunit interactions within the insect olfactory receptor complex using FRET. Insect Biochemistry and Molecular Biology, 2013, 43, 138-145.	1.2	61
45	Recombinant expression, detergent solubilisation and purification of insect odorant receptor subunits. Protein Expression and Purification, 2013, 90, 160-169.	0.6	31
46	Ligand promiscuity within the internal cavity of Epiphyas postvittana Takeout 1 protein. Journal of Structural Biology, 2013, 182, 259-263.	1.3	12
47	Multilayer Perceptron Classification of Unknown Volatile Chemicals from the Firing Rates of Insect Olfactory Sensory Neurons and Its Application to Biosensor Design. Neural Computation, 2013, 25, 259-287.	1.3	21
48	The Evolution of Desaturase Gene Regulation Involved in Sex Pheromone Production in Leafroller Moths of the Genus Planotortrix. Journal of Heredity, 2013, 104, 627-638.	1.0	12
49	Application of artificial neural networks on mosquito Olfactory Receptor Neurons for an olfactory biosensor. , 2013, 2013, 5390-3.		5
50	A Conserved Aspartic Acid Is Important for Agonist (VUAA1) and Odorant/Tuning Receptor-Dependent Activation of the Insect Odorant Co-Receptor (Orco). PLoS ONE, 2013, 8, e70218.	1.1	38
51	Quantifying Variation in the Ability of Yeasts to Attract Drosophila melanogaster. PLoS ONE, 2013, 8, e75332.	1.1	89
52	Sex Pheromone Evolution Is Associated with Differential Regulation of the Same Desaturase Gene in Two Genera of Leafroller Moths. PLoS Genetics, 2012, 8, e1002489.	1.5	55
53	Genetic Variation in the Odorant Receptor OR2J3 Is Associated with the Ability to Detect the â€œGrassyâ€• Smelling Odor, cis-3-hexen-1-ol. Chemical Senses, 2012, 37, 585-593.	1.1	110
54	DAD2 Is an Î±/Î² Hydrolase Likely to Be Involved in the Perception of the Plant Branching Hormone, Strigolactone. Current Biology, 2012, 22, 2032-2036.	1.8	571

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55	Investigation of the impact of sensitivity to cis-3-hexen-1-ol (green/grassy) on food acceptability and selection. Food Quality and Preference, 2012, 24, 230-242.	2.3	17
56	Heritable differences in chemosensory ability among humans. Flavour, 2012, 1, .	2.3	22
57	Sequence Comparisons of Odorant Receptors among Tortricid Moths Reveal Different Rates of Molecular Evolution among Family Members. PLoS ONE, 2012, 7, e38391.	1.1	13
58	A PCR-directed cell-free approach to optimize protein expression using diverse fusion tags. Protein Expression and Purification, 2011, 80, 117-124.	0.6	12
59	Biochemical characterisation of MdCXE1, a carboxylesterase from apple that is expressed during fruit ripening. Phytochemistry, 2011, 72, 564-571.	1.4	28
60	Characterisation of two alcohol acyltransferases from kiwifruit (Actinidia spp.) reveals distinct substrate preferences. Phytochemistry, 2011, 72, 700-710.	1.4	53
61	Patterns of Mitochondrial Haplotype Diversity in the Invasive Pest Epiphyas postvittana (Lepidoptera:) Tj ETQq1 1 0.784314 rgBT /Ove	0.8	18
62	Predicting odorant chemical class from odorant descriptor values with an assembly of multi-layer perceptrons. , 2011, 2011, 2756-9.		8
63	Using artificial neural networks to classify unknown volatile chemicals from the firings of insect olfactory sensory neurons. , 2011, 2011, 2752-5.		12
64	Selective Sweeps at the Organophosphorus Insecticide Resistance Locus, Rop-1, Have Affected Variation across and beyond the Â-Esterase Gene Cluster in the Australian Sheep Blowfly, Lucilia cuprina. Molecular Biology and Evolution, 2011, 28, 1835-1846.	3.5	16
65	A preliminary investigation into a genetic basis for cis-3-hexen-1-ol odour perception: A genome-wide association approach. Food Quality and Preference, 2010, 21, 121-131.	2.3	40
66	Genetic variation in taste and odour perception: an emerging science to guide new product development. , 2010, , 570-596.		4
67	Crystal Structure of Epiphyas postvittana Takeout 1 with Bound Ubiquinone Supports a Role as Ligand Carriers for Takeout Proteins in Insects. Journal of Biological Chemistry, 2009, 284, 3496-3503.	1.6	40
68	Odorant Receptors from the Light brown Apple Moth (Epiphyas postvittana) Recognize Important Volatile Compounds Produced by Plants. Chemical Senses, 2009, 34, 383-394.	1.1	104
69	Molecular basis of female-specific odorant responses in Bombyx mori. Insect Biochemistry and Molecular Biology, 2009, 39, 189-197.	1.2	124
70	Apple Functional Genomics. , 2009, , 121-142.		3
71	DNA barcoding of the endemic New Zealand leafroller moth genera, <i>Ctenopseustis</i> and <i>Planotortrix</i>. Molecular Ecology Resources, 2009, 9, 691-698.	2.2	19
72	Expressed sequence tags and proteomics of antennae from the tortricid moth, <i>Epiphyas postvittana</i>. Insect Molecular Biology, 2008, 17, 361-373.	1.0	55

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73	Analysis of expressed sequence tags from Actinidia: applications of a cross species EST database for gene discovery in the areas of flavor, health, color and ripening. BMC Genomics, 2008, 9, 351.	1.2	178
74	DNA Diagnostics of Three Armored Scale Species on Kiwifruit in New Zealand. Journal of Economic Entomology, 2008, 101, 1944-1949.	0.8	17
75	Drosophila odorant receptors are novel seven transmembrane domain proteins that can signal independently of heterotrimeric G proteins. Insect Biochemistry and Molecular Biology, 2008, 38, 770-780.	1.2	262
76	A Genomics Approach Reveals That Aroma Production in Apple Is Controlled by Ethylene Predominantly at the Final Step in Each Biosynthetic Pathway. Plant Physiology, 2007, 144, 1899-1912.	2.3	317
77	High-Resolution Crystal Structure of Plant Carboxylesterase AeCXE1, from Actinidia eriantha, and Its Complex with a High-Affinity Inhibitor Paraoxon,. Biochemistry, 2007, 46, 1851-1859.	1.2	58
78	Functional analysis of a Drosophila melanogaster olfactory receptor expressed in Sf9 cells. Journal of Neuroscience Methods, 2007, 159, 189-194.	1.3	71
79	Female-biased expression of odourant receptor genes in the adult antennae of the silkworm, Bombyx mori. Insect Molecular Biology, 2007, 16, 107-119.	1.0	159
80	Expressed sequence tags from the midgut of <i>Epiphyas postvittana</i> (Walker) (Lepidoptera:) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.0	42
81	Selective Pressures on Drosophila Chemosensory Receptor Genes. Journal of Molecular Evolution, 2007, 64, 628-636.	0.8	26
82	Phylogenetic Analysis of â€œCandidatus Phytoplasma australienseâ€•Reveals Distinct Populations in New Zealand. Phytopathology, 2006, 96, 838-845.	1.1	19
83	RNA interference in the light brown apple moth, Epiphyas postvittana (Walker) induced by double-stranded RNA feeding. Insect Molecular Biology, 2006, 15, 383-391.	1.0	305
84	The Squash Aspartic Proteinase Inhibitor SQAPI Is Widely Present in the Cucurbitales, Comprises a Small Multigene Family, and Is a Member of the Phytocystatin Family. Journal of Molecular Evolution, 2006, 63, 747-757.	0.8	10
85	Analyses of Expressed Sequence Tags from Apple. Plant Physiology, 2006, 141, 147-166.	2.3	246
86	Amplification of DNA from preserved specimens shows blowflies were preadapted for the rapid evolution of insecticide resistance. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 8757-8762.	3.3	149
87	An alcohol acyl transferase from apple (cv. Royal Gala), MpAAT1, produces esters involved in apple fruit flavor. FEBS Journal, 2005, 272, 3132-3144.	2.2	150
88	Multiple Mutations and Gene Duplications Conferring Organophosphorus Insecticide Resistance Have Been Selected at the Rop-1 Locus of the Sheep Blowfly, Lucilia cuprina. Journal of Molecular Evolution, 2005, 60, 207-220.	0.8	52
89	The Carboxylesterase Gene Family from Arabidopsis thaliana. Journal of Molecular Evolution, 2003, 57, 487-500.	0.8	104
90	Characteristics associated with Woolly Apple Aphid Eriosoma lanigerum , resistance of three apple rootstocks. Entomologia Experimentalis Et Applicata, 2003, 109, 63-72.	0.7	33

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91	Pheromone binding proteins of Epiphyas postvittana (Lepidoptera: Tortricidae) are encoded at a single locus. Insect Biochemistry and Molecular Biology, 2002, 32, 1543-1554.	1.2	22
92	Sucrose Phosphate Synthase Genes in Plants Belong to Three Different Families. Journal of Molecular Evolution, 2002, 54, 322-332.	0.8	76
93	The acetylcholinesterase gene and organophosphorus resistance in the Australian sheep blowfly, Lucilia cuprina. Insect Biochemistry and Molecular Biology, 2001, 31, 805-816.	1.2	109
94	Pernin: a novel, self-aggregating haemolymph protein from the New Zealand green-lipped mussel, Perna canaliculus (Bivalvia: Mytilidae). Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2001, 128, 767-779.	0.7	35
95	Analysis of the circadian clock gene period in the sheep blow fly Lucilia cuprina. Genetical Research, 2000, 75, 257-267.	0.3	32
96	A novel Î±-amylase gene is transiently upregulated during low temperature exposure in apple fruit. FEBS Journal, 2000, 267, 1313-1322.	0.2	15
97	Binding of Bacillus thuringiensis Î´-endotoxins Cry1Ac and Cry1Ba to a 120-kDa aminopeptidase-N of Epiphyas postvittana purified from both brush border membrane vesicles and baculovirus-infected Sf9 cells. Insect Biochemistry and Molecular Biology, 2000, 30, 1069-1078.	1.2	27
98	The phylogenetic position of the New Zealand batfly,<i>Mystacinobia zelandica</i>(Mystacinobiidae;) Tj ETQq0 0 0 rgBT /Overlock 10 Tf Society of New Zealand, 2000, 30, 155-168.	1.0	15
99	Title is missing!. European Journal of Plant Pathology, 1998, 104, 619-623.	0.8	38
100	Pheromone evolution within the genera Ctenopseustis and Planotortrix (Lepidoptera: Tortricidae) inferred from a phylogeny based on cytochrome oxidase I gene variation. Biochemical Systematics and Ecology, 1998, 26, 473-484.	0.6	31
101	Two different amino acid substitutions in the ali-esterase, E3, confer alternative types of organophosphorus insecticide resistance in the sheep blowfly, Lucilia cuprina. Insect Biochemistry and Molecular Biology, 1998, 28, 139-150.	1.2	126
102	A single amino acid substitution converts a carboxylesterase to an organophosphorus hydrolase and confers insecticide resistance on a blowfly. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 7464-7468.	3.3	340
103	cDNA cloning, baculovirus-expression and kinetic properties of the esterase, E3, involved in organophosphorus resistance in Lucilia cuprina. Insect Biochemistry and Molecular Biology, 1997, 27, 15-25.	1.2	64
104	Molecular cloning of an Î±-esterase gene cluster on chromosome 3R of Drosophila melanogaster. Insect Biochemistry and Molecular Biology, 1996, 26, 235-247.	1.2	35
105	Isolation of a cluster esterase genes associated with organophosphate resistance in Lucilia cuprina. Insect Molecular Biology, 1996, 5, 211-216.	1.0	28
106	The sensitive period for yellow phenocopy induction inDrosophila melanogaster. Experientia, 1988, 44, 618-621.	1.2	3