Patrick C Phillips

List of Publications by Year
in descending order

130 papers	9,429 citations	53794 45 h-index	45317 90 g-index
157 all docs	157 docs citations	157 times ranked	9561 citing authors

#	Article	IF	Citations
1	Epistasis â€" the essential role of gene interactions in the structure and evolution of genetic systems. Nature Reviews Genetics, 2008, 9, 855-867.	16.3	1,262
2	Network thinking in ecology and evolution. Trends in Ecology and Evolution, 2005, 20, 345-353.	8.7	728
3	VISUALIZING MULTIVARIATE SELECTION. Evolution; International Journal of Organic Evolution, 1989, 43, 1209-1222.	2.3	507
4	Comparative quantitative genetics: evolution of the G matrix. Trends in Ecology and Evolution, 2002, 17, 320-327.	8.7	467
5	Genotype to Phenotype: A Complex Problem. Science, 2010, 328, 469-469.	12.6	358
6	Parallel genetic basis for repeated evolution of armor loss in Alaskan threespine stickleback populations. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 6050-6055.	7.1	319
7	HIERARCHICAL COMPARISON OF GENETIC VARIANCEâ€COVARIANCE MATRICES. I. USING THE FLURY HIERARCHY. Evolution; International Journal of Organic Evolution, 1999, 53, 1506-1515.	2.3	309
8	The Language of Gene Interaction. Genetics, 1998, 149, 1167-1171.	2.9	235
9	Visualizing Multivariate Selection. Evolution; International Journal of Organic Evolution, 1989, 43, 1209.	2.3	206
10	Mutation load and rapid adaptation favour outcrossing over self-fertilization. Nature, 2009, 462, 350-352.	27.8	191
11	Using Population Genomics to Detect Selection in Natural Populations: Key Concepts and Methodological Considerations. International Journal of Plant Sciences, 2010, 171, 1059-1071.	1.3	165
12	Inbreeding Changes the Shape of the Genetic Covariance Matrix inDrosophila melanogaster. Genetics, 2001, 158, 1137-1145.	2.9	156
13	Hierarchical Comparison of Genetic Variance-Covariance Matrices. I. Using the Flury Hierarchy. Evolution; International Journal of Organic Evolution, 1999, 53, 1506.	2.3	145
14	Evolution and development of facial bone morphology in threespine sticklebacks. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 5791-5796.	7.1	115
15	POWER AND POTENTIAL BIAS IN FIELD STUDIES OF NATURAL SELECTION. Evolution; International Journal of Organic Evolution, 2004, 58, 479-485.	2.3	112
16	Selection and Maintenance of Androdioecy in Caenorhabditis elegans. Genetics, 2002, 160, 975-982.	2.9	107
17	The Opportunity for Canalization and the Evolution of Genetic Networks. American Naturalist, 2005, 165, 147-162.	2.1	104
18	A long journey to reproducible results. Nature, 2017, 548, 387-388.	27.8	104

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19	Studies of threespine stickleback developmental evolution: progress and promise. Genetica, 2006, 129, 105-126.	1.1	102
20	Reproductive Mode and the Evolution of Genome Size and Structure in Caenorhabditis Nematodes. PLoS Genetics, 2015, 11, e1005323.	3.5	102
21	Impact of genetic background and experimental reproducibility on identifying chemical compounds with robust longevity effects. Nature Communications, 2017, 8, 14256.	12.8	102
22	Outcrossing and the Maintenance of Males within C. elegans Populations. Journal of Heredity, 2010, 101, S62-S74.	2.4	101
23	Mutation Accumulation in Populations of Varying Size: The Distribution of Mutational Effects for Fitness Correlates in Caenorhabditis elegans. Genetics, 2004, 166, 1269-1279.	2.9	100
24	HIERARCHICAL COMPARISON OF GENETIC VARIANCEâ€COVARIANCE MATRICES. II COASTALâ€INLAND DIVERGENCE IN THE GARTER SNAKE, THAMNOPHIS ELEGANS. Evolution; International Journal of Organic Evolution, 1999, 53, 1516-1527.	2.3	98
25	Experimental Evolution with Caenorhabditis Nematodes. Genetics, 2017, 206, 691-716.	2.9	94
26	Spontaneous Mutational Correlations for Life-History, Morphological and Behavioral Characters in Caenorhabditis elegans. Genetics, 2005, 170, 645-653.	2.9	92
27	NATURAL TRANSFORMATION INCREASES THE RATE OF ADAPTATION IN THE HUMAN PATHOGEN HELICOBACTER PYLORI. Evolution; International Journal of Organic Evolution, 2007, 62, 071101082849001-???.	2.3	89
28	More Than the Sum of Its Parts: A Complex Epistatic Network Underlies Natural Variation in Thermal Preference Behavior in Caenorhabditis elegans. Genetics, 2012, 192, 1533-1542.	2.9	85
29	Molecular evolution and quantitative variation for chemosensory behaviour in the nematode genus Caenorhabditis. Molecular Ecology, 2003, 12, 1325-1337.	3.9	82
30	ECOLOGICAL AND DEVELOPMENTAL CONTEXT OF NATURAL SELECTION: MATERNAL EFFECTS AND THERMALLY INDUCED PLASTICITY IN THE FROG BOMBINA ORIENTALIS. Evolution; International Journal of Organic Evolution, 2006, 60, 142-156.	2.3	80
31	SEXUAL PARTNERS FOR THE STRESSED: FACULTATIVE OUTCROSSING IN THE SELF-FERTILIZING NEMATODECAENORHABDITIS ELEGANS. Evolution; International Journal of Organic Evolution, 2009, 63, 1473-1482.	2.3	76
32	Hierarchical Comparison of Genetic Variance-Covariance Matrices. II. Coastal-Inland Divergence in the Garter Snake, Thamnophis elegans. Evolution; International Journal of Organic Evolution, 1999, 53, 1516.	2.3	74
33	GENE INTERACTION AFFECTS THE ADDITIVE GENETIC VARIANCE IN SUBDIVIDED POPULATIONS WITH MIGRATION AND EXTINCTION. Evolution; International Journal of Organic Evolution, 1993, 47, 1758-1769.	2.3	72
34	GENETIC VARIATION FOR OUTCROSSING AMONG CAENORHABDITIS ELEGANS ISOLATES. Evolution; International Journal of Organic Evolution, 2006, 60, 1300-1305.	2.3	71
35	Waiting for a compensatory mutation: phase zero of the shifting-balance process. Genetical Research, 1996, 67, 271-283.	0.9	70
36	Thermal preference ofCaenorhabditis elegans: a null model and empirical tests. Journal of Experimental Biology, 2007, 210, 3107-3116.	1.7	70

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37	Evolution of Sarcomeric Myosin Heavy Chain Genes: Evidence from Fish. Molecular Biology and Evolution, 2004, 21, 1042-1056.	8.9	66
38	Rapid Evolution of Phenotypic Plasticity and Shifting Thresholds of Genetic Assimilation in the NematodeCaenorhabditis remanei. G3: Genes, Genomes, Genetics, 2014, 4, 1103-1112.	1.8	66
39	Evolutionary rates and centrality in the yeast gene regulatory network. Genome Biology, 2009, 10, R35.	9.6	64
40	Caenorhabditis elegansas a platform for molecular quantitative genetics and the systems biology of natural variation. Genetical Research, 2010, 92, 331-348.	0.9	61
41	Microfluidic Devices for Analysis of Spatial Orientation Behaviors in Semi-Restrained Caenorhabditis elegans. PLoS ONE, 2011, 6, e25710.	2.5	61
42	The exquisite corpse: a shifting view of the shifting balance. Trends in Ecology and Evolution, 2000, 15, 347-348.	8.7	59
43	PERSISTENCE OF CHANGES IN THE GENETIC COVARIANCE MATRIX AFTER A BOTTLENECK. Evolution; International Journal of Organic Evolution, 2002, 56, 1968-1975.	2.3	57
44	ALLELIC DIVERGENCE PRECEDES AND PROMOTES GENE DUPLICATION. Evolution; International Journal of Organic Evolution, 2006, 60, 881-892.	2.3	57
45	Does thermoregulatory behavior maximize reproductive fitness of natural isolates of Caenorhabditis elegans?. BMC Evolutionary Biology, 2011, 11, 157.	3.2	51
46	Males, Outcrossing, and Sexual Selection in Caenorhabditis Nematodes. Genetics, 2019, 213, 27-57.	2.9	49
47	Experimental Evolution Reveals Antagonistic Pleiotropy in Reproductive Timing but Not Life Span in Caenorhabditis elegans. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2011, 66A, 1300-1308.	3.6	47
48	Natural and experimental evolution of sexual conflict within Caenorhabditis nematodes. BMC Evolutionary Biology, 2015, 15, 93.	3.2	47
49	Beyond induced mutants: using worms to study natural variation in genetic pathways. Trends in Genetics, 2008, 24, 178-185.	6.7	46
50	Genetic variation for outcrossing among Caenorhabditis elegans isolates. Evolution; International Journal of Organic Evolution, 2006, 60, 1300-5.	2.3	46
51	From complex traits to complex alleles. Trends in Genetics, 1999, 15, 6-8.	6.7	45
52	The Population Genetics of Synthetic Lethals. Genetics, 1998, 150, 449-458.	2.9	44
53	Auxin-Mediated Sterility Induction System for Longevity and Mating Studies in Caenorhabditis elegans. G3: Genes, Genomes, Genetics, 2018, 8, 2655-2662.	1.8	42
54	Limits to Genomic Divergence Under Sexually Antagonistic Selection. G3: Genes, Genomes, Genetics, 2019, 9, 3813-3824.	1.8	42

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55	FITNESS RECOVERY AND COMPENSATORY EVOLUTION IN NATURAL MUTANT LINES OF C. ELEGANS. Evolution; International Journal of Organic Evolution, 2011, 65, 2335-2344.	2.3	40
56	Genomic Signatures of Sexual Conflict. Journal of Heredity, 2017, 108, 780-790.	2.4	40
57	Testing hypotheses regarding the genetics of adaptation. Genetica, 2005, 123, 15-24.	1.1	39
58	Behavioral Degradation Under Mutation Accumulation in Caenorhabditis elegans. Genetics, 2005, 170, 655-660.	2.9	38
59	High Nucleotide Divergence in Developmental Regulatory Genes Contrasts With the Structural Elements of Olfactory Pathways in Caenorhabditis. Genetics, 2009, 181, 1387-1397.	2.9	37
60	INDEPENDENT AXES OF GENETIC VARIATION AND PARALLEL EVOLUTIONARY DIVERGENCE OF OPERCLE BONE SHAPE IN THREESPINE STICKLEBACK. Evolution; International Journal of Organic Evolution, 2012, 66, 419-434.	2.3	35
61	Selective sweeps and parallel mutation in the adaptive recovery from deleterious mutation in Caenorhabditis elegans. Genome Research, 2010, 20, 1663-1671.	5.5	34
62	EXPERIMENTAL EVOLUTION OF THEâ€,CAENORHABDITIS ELEGANSâ€,SEX DETERMINATION PATHWAY. Evolution; International Journal of Organic Evolution, 2012, 66, 82-93.	2.3	32
63	Environmentally induced changes in correlated responses to selection reveal variable pleiotropy across a complex genetic network. Evolution; International Journal of Organic Evolution, 2015, 69, 1128-1142.	2.3	30
64	DESIGNING EXPERIMENTS TO MAXIMIZE THE POWER OF DETECTING CORRELATIONS. Evolution; International Journal of Organic Evolution, 1998, 52, 251-255.	2.3	29
65	A TEST OF THE CONJECTURE THAT G-MATRICES ARE MORE STABLE THAN B-MATRICES. Evolution; International Journal of Organic Evolution, 2010, 64, 2601-2613.	2.3	29
66	Daily temperature fluctuations unpredictably influence developmental rate and morphology at a critical early larval stage in a frog. BMC Ecology, 2013, 13, 18.	3.0	29
67	The transgenerational effects of heat stress in the nematode Caenorhabditis remanei are negative and rapidly eliminated under direct selection for increased stress resistance in larvae. Genomics, 2014, 104, 438-446.	2.9	29
68	Intrinsic differences between males and females determine sex-specific consequences of inbreeding. BMC Evolutionary Biology, 2016, 16, 36.	3.2	29
69	Genetic Dissection of Late-Life Fertility in Caenorhabditis elegans. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2011, 66A, 842-854.	3.6	28
70	Chromosome-Level Assembly of theCaenorhabditis remaneiGenome Reveals Conserved Patterns of Nematode Genome Organization. Genetics, 2020, 214, 769-780.	2.9	28
71	Duplication of floral regulatory genes in the Lamiales. American Journal of Botany, 2005, 92, 1284-1293.	1.7	27
72	Relaxed Selection Among Duplicate Floral Regulatory Genes in Lamiales. Journal of Molecular Evolution, 2006, 63, 493-503.	1.8	27

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73	Hermaphrodite life history and the maintenance of partial selfing in experimental populations of Caenorhabditis elegans. BMC Evolutionary Biology, 2014, 14, 117.	3.2	27
74	The Stress-Chip: A microfluidic platform for stress analysis in Caenorhabditis elegans. PLoS ONE, 2019, 14, e0216283.	2.5	27
75	Automated lifespan determination across Caenorhabditis strains and species reveals assay-specific effects of chemical interventions. GeroScience, 2019, 41, 945-960.	4.6	27
76	Gene Interaction Affects the Additive Genetic Variance in Subdivided Populations with Migration and Extinction. Evolution; International Journal of Organic Evolution, 1993, 47, 1758.	2.3	26
77	Coevolutionary interactions with parasites constrain the spread of selfâ€fertilization into outcrossing host populations. Evolution; International Journal of Organic Evolution, 2016, 70, 2632-2639.	2.3	25
78	MAINTENANCE OF POLYGENIC VARIATION VIA A MIGRATION-SELECTION BALANCE UNDER UNIFORM SELECTION. Evolution; International Journal of Organic Evolution, 1996, 50, 1334-1339.	2.3	23
79	ECOLOGICAL AND DEVELOPMENTAL CONTEXT OF NATURAL SELECTION: MATERNAL EFFECTS AND THERMALLY INDUCED PLASTICITY IN THE FROG BOMBINA ORIENTALIS. Evolution; International Journal of Organic Evolution, 2006, 60, 142.	2.3	22
80	GENETIC VARIATION FOR OUTCROSSING AMONG CAENORHABDITIS ELEGANS ISOLATES. Evolution; International Journal of Organic Evolution, 2006, 60, 1300.	2.3	22
81	Environmental and Evolutionary Drivers of the Modular Gene Regulatory Network Underlying Phenotypic Plasticity for Stress Resistance in the Nematode Caenorhabditis remanei. G3: Genes, Genomes, Genetics, 2019, 9, 969-982.	1.8	22
82	VARIATION IN PLEIOTROPY AND THE MUTATIONAL UNDERPINNINGS OF THE G-MATRIX. Evolution; International Journal of Organic Evolution, 2006, 60, 2655-2660.	2.3	21
83	Selection against males in Caenorhabditis elegans under two mutational treatments. Proceedings of the Royal Society B: Biological Sciences, 2007, 274, 417-424.	2.6	21
84	Field studies reveal a close relative of C. elegans thrives in the fresh figs of Ficus septica and disperses on its Ceratosolen pollinating wasps. BMC Ecology, 2018, 18, 26.	3.0	21
85	Natural Variation for Lifespan and Stress Response in the Nematode Caenorhabditis remanei. PLoS ONE, 2013, 8, e58212.	2.5	21
86	Peak Shifts and Polymorphism During Phase Three of Wright's Shifting- Balance Process. Evolution; International Journal of Organic Evolution, 1993, 47, 1733.	2.3	20
87	Expression Level Drives the Pattern of Selective Constraints along the Insulin/Tor Signal Transduction Pathway in Caenorhabditis. Genome Biology and Evolution, 2011, 3, 715-722.	2.5	20
88	PERSISTENCE OF CHANGES IN THE GENETIC COVARIANCE MATRIX AFTER A BOTTLENECK. Evolution; International Journal of Organic Evolution, 2002, 56, 1968.	2.3	19
89	Evaluating human autosomal loci for sexually antagonistic viability selection in two large biobanks. Genetics, 2021, 217, 1-10.	2.9	19
90	Quantifying male and female pheromone-based mate choice in Caenorhabditis nematodes using a novel microfluidic technique. PLoS ONE, 2017, 12, e0189679.	2.5	17

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91	Metformin treatment of diverse Caenorhabditis species reveals the importance of genetic background in longevity and healthspan extension outcomes. Aging Cell, 2022, 21, e13488.	6.7	17
92	PEAK SHIFTS AND POLYMORPHISM DURING PHASE THREE OF WRIGHT'S SHIFTING-BALANCE PROCESS. Evolution; International Journal of Organic Evolution, 1993, 47, 1733-1743.	2.3	15
93	One perfect worm. Trends in Genetics, 2006, 22, 405-407.	6.7	15
94	Fertility/longevity tradeâ€offs under limiting-male conditions in mating populations of Caenorhabditis elegans. Experimental Gerontology, 2012, 47, 759-763.	2.8	14
95	High-specificity detection of rare alleles with Paired-End Low Error Sequencing (PELE-Seq). BMC Genomics, 2016, 17, 464.	2.8	14
96	Metagenome-Assembled Draft Genome Sequence of a Novel Microbial Stenotrophomonas maltophilia Strain Isolated from Caenorhabditis remanei Tissue. Genome Announcements, 2017, 5, .	0.8	14
97	Maintenance of Polygenic Variation Via a Migration-Selection Balance Under Uniform Selection. Evolution; International Journal of Organic Evolution, 1996, 50, 1334.	2.3	13
98	Dramatic evolution of body length due to postembryonic changes in cell size in a newly discovered close relative ofCaenorhabditis elegans. Evolution Letters, 2018, 2, 427-441.	3.3	13
99	A large close relative of C. elegans is slow-developing but not long-lived. BMC Evolutionary Biology, 2019, 19, 74.	3.2	13
100	Rapid Self-Selecting and Clone-Free Integration of Transgenes into Engineered CRISPR Safe Harbor Locations inCaenorhabditis elegans. G3: Genes, Genomes, Genetics, 2020, 10, 3775-3782.	1.8	13
101	ALLELIC DIVERGENCE PRECEDES AND PROMOTES GENE DUPLICATION. Evolution; International Journal of Organic Evolution, 2006, 60, 881.	2.3	12
102	A Recent Global Selective Sweep on theage-1Phosphatidylinositol 3-OH Kinase Regulator of the Insulin-Like Signaling Pathway WithinCaenorhabditis remanei. G3: Genes, Genomes, Genetics, 2014, 4, 1123-1133.	1.8	12
103	Purging Deleterious Mutations under Self Fertilization: Paradoxical Recovery in Fitness with Increasing Mutation Rate in Caenorhabditis elegans. PLoS ONE, 2010, 5, e14473.	2.5	11
104	Accuracy and Power of the Likelihood Ratio Test for Comparing Evolutionary Rates Among Genes. Journal of Molecular Evolution, 2005, 60, 426-433.	1.8	10
105	Rapid Gene Family Evolution of a Nematode Sperm Protein Despite Sequence Hyper-conservation. G3: Genes, Genomes, Genetics, 2018, 8, 353-362.	1.8	10
106	Intervention Testing Program: the tyrosine kinase inhibitor imatinib mesylate does not extend lifespan in nematodes. MicroPublication Biology, 2019, 2019, .	0.1	9
107	Intervention Testing Program: the creatine analog Î²-guanidinopropionic acid does not extend lifespan in nematodes. MicroPublication Biology, 2020, 2020, .	0.1	9
108	POWER AND POTENTIAL BIAS IN FIELD STUDIES OF NATURAL SELECTION. Evolution; International Journal of Organic Evolution, 2004, 58, 479.	2.3	8

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109	Functional constraint and divergence in the G protein family in Caenorhabditis elegans and Caenorhabditis briggsae. Molecular Genetics and Genomics, 2005, 273, 299-310.	2.1	8
110	Standardized Protocols from the Caenorhabditis Intervention Testing Program 2013-2016: Conditions and Assays used for Quantifying the Development, Fertility and Lifespan of Hermaphroditic Caenorhabditis Strains. Protocol Exchange, 0, , .	0.3	8
111	Designing Experiments to Maximize the Power of Detecting Correlations. Evolution; International Journal of Organic Evolution, 1998, 52, 251.	2.3	7
112	VARIATION IN PLEIOTROPY AND THE MUTATIONAL UNDERPINNINGS OF THE G-MATRIX. Evolution; International Journal of Organic Evolution, 2006, 60, 2655.	2.3	7
113	Intervention Testing Program: the farnesoid X receptor agonist obeticholic acid does not robustly extend lifespan in nematodes. MicroPublication Biology, 2020, 2020, .	0.1	7
114	The rise and fall of new mutations. Trends in Ecology and Evolution, 1997, 12, 466-468.	8.7	6
115	Evolution: Five Heads Are Better Than One. Current Biology, 2016, 26, R283-R285.	3.9	6
116	Self-fertilization sweeps up variation in the worm genome. Nature Genetics, 2012, 44, 237-238.	21.4	5
117	Variance in Epistasis Links Gene Regulation and Evolutionary Rate in the Yeast Genetic Interaction Network. Genome Biology and Evolution, 2012, 4, 1080-1087.	2.5	4
118	Cell Biology: Scaling and the Emergence of Evolutionary Cell Biology. Current Biology, 2015, 25, R223-R225.	3.9	4
119	Complex pleiotropic genetic architecture of evolved heat stress and oxidative stress resistance in the nematodeCaenorhabditis remanei. G3: Genes, Genomes, Genetics, 2021, 11, .	1.8	4
120	Slow Recovery from Inbreeding Depression Generated by the Complex Genetic Architecture of Segregating Deleterious Mutations. Molecular Biology and Evolution, 2022, 39, .	8.9	4
121	A simplified design for the C. elegans lifespan machine. Journal of Biological Methods, 2020, 7, e137.	0.6	4
122	Genetic diversity estimates for the Intervention Testing Program screening panel.. MicroPublication Biology, 2022, 2022, .	0.1	4
123	What maintains genetic variation in natural populations? A commentary on â€˜The maintenance of genetic variability by mutation in a polygenic character with linked lociâ€™ by Russell Lande. Genetical Research, 2007, 89, 371-372.	0.9	3
124	Proteomic and evolutionary analyses of sperm activation identify uncharacterized genes in Caenorhabditis nematodes. BMC Genomics, 2018, 19, 593.	2.8	3
125	Who shouldn't be your daddy. Nature, 2008, 451, 640-641.	27.8	2
126	Comparative genomic analysis of upstream miRNA regulatory motifs in Caenorhabditis. Rna, 2016, 22, 968-978.	3.5	2

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127	Intervention Testing Program: the herbicide diuron does not robustly extend lifespan in nematodes. MicroPublication Biology, 2021, 2021, .	0.1	1
128	Post-insemination selection dominates pre-insemination selection in driving rapid evolution of male competitive ability. PLoS Genetics, 2022, 18, e1010063.	3.5	1
129	Testing hypotheses regarding the genetics of adaptation. , 2005, , 15-24.		0
130	A simplified design for the lifespan machine. Journal of Biological Methods, 2020, 7, e137.	0.6	0