Michael Doebeli

List of Publications by Year
in descending order

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126 papers	13,606 citations	47 h-index	110 g-index
139 all docs	139 docs citations	139 times ranked	11068 citing authors

#	Article	IF	Citations
1	On the Ecological Significance of Phenotypic Heterogeneity in Microbial Populations Undergoing Starvation. Microbiology Spectrum, 2022, 10, e0045021.	3.0	3
2	On the importance of evolving phenotype distributions on evolutionary diversification. PLoS Computational Biology, 2021, 17, e1008733.	3.2	1
3	Boom-bust population dynamics increase diversity in evolving competitive communities. Communications Biology, 2021, 4, 502.	4.4	14
4	Evolution to alternative levels of stable diversity leaves areas of niche space unexplored. PLoS Computational Biology, 2021, 17, e1008650.	3.2	6
5	Response to â€œVast (but avoidable) underestimation of global biodiversityâ€. PLoS Biology, 2021, 19, e3001362.	5.6	2
6	Evolution of diversity in metabolic strategies. ELife, 2021, 10, .	6.0	19
7	Multilevel selection favors fragmentation modes that maintain cooperative interactions in multispecies communities. PLoS Computational Biology, 2021, 17, e1008896.	3.2	9
8	Spatial social dilemmas promote diversity. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	6
9	A note on the complexity of evolutionary dynamics in a classic consumer-resource model. Theoretical Ecology, 2020, 13, 79-84.	1.0	3
10	Evolutionary adaptation of highâ€diversity communities to changing environments. Ecology and Evolution, 2020, 10, 11941-11953.	1.9	2
11	Reply to Daybog and Kolodny: Necessary requirements for holobiont-level selection are robust to model assumptions. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11864-11864.	7.1	0
12	Effects of forced taxonomic transitions on metabolic composition and function in microbial microcosms. Environmental Microbiology Reports, 2020, 12, 514-524.	2.4	10
13	The joint evolution of cooperation and competition. Journal of Theoretical Biology, 2019, 480, 1-12.	1.7	7
14	Competition-driven evolution of organismal complexity. PLoS Computational Biology, 2019, 15, e1007388.	3.2	6
15	The role of multilevel selection in host microbiome evolution. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 20591-20597.	7.1	72
16	Acculturation drives the evolution of intergroup conflict. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14089-14097.	7.1	9
17	Circumventing kinetics in biogeochemical modeling. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 11329-11338.	7.1	11
18	A census-based estimate of Earth's bacterial and archaeal diversity. PLoS Biology, 2019, 17, e3000106.	5.6	139

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19	Function and functional redundancy in microbial systems. Nature Ecology and Evolution, 2018, 2, 936-943.	7.8	912
20	The Cultural Brain Hypothesis: How culture drives brain expansion, sociality, and life history. PLoS Computational Biology, 2018, 14, e1006504.	3.2	76
21	The influence of habitat boundaries on evolutionary branching along environmental gradients. Evolutionary Ecology, 2018, 32, 563-585.	1.2	5
22	Bacterial diversification through geological time. Nature Ecology and Evolution, 2018, 2, 1458-1467.	7.8	81
23	Functional structure of the bromeliad tank microbiome is strongly shaped by local geochemical conditions. Environmental Microbiology, 2017, 19, 3132-3151.	3.8	58
24	Taxonomic variability and functional stability in microbial communities infected by phages. Environmental Microbiology, 2017, 19, 3863-3878.	3.8	31
25	Diversity and Coevolutionary Dynamics in High-Dimensional Phenotype Spaces. American Naturalist, 2017, 189, 105-120.	2.1	35
26	Rethinking the evolution of specialization: A model for the evolution of phenotypic heterogeneity. Journal of Theoretical Biology, 2017, 435, 248-264.	1.7	10
27	Towards a mechanistic foundation of evolutionary theory. ELife, 2017, 6, .	6.0	87
28	Transient dynamics of competitive exclusion in microbial communities. Environmental Microbiology, 2016, 18, 1863-1874.	3.8	34
29	Integrating biogeochemistry with multiomic sequence information in a model oxygen minimum zone. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E5925-E5933.	7.1	94
30	Decoupling function and taxonomy in the global ocean microbiome. Science, 2016, 353, 1272-1277.	12.6	2,001
31	Reaction-centric modeling of microbial ecosystems. Ecological Modelling, 2016, 335, 74-86.	2.5	9
32	Individual-based models for adaptive diversification in high-dimensional phenotype spaces. Journal of Theoretical Biology, 2016, 390, 97-105.	1.7	25
33	Modeling evolutionary transitions in social insects. ELife, 2016, 5, e12721.	6.0	1
34	Detecting cyclicity in ecological time series. Ecology, 2015, 96, 1724-1732.	3.2	13
35	Chaos in high-dimensional dissipative dynamical systems. Scientific Reports, 2015, 5, 12506.	3.3	29
36	Calibration and analysis of genome-based models for microbial ecology. ELife, 2015, 4, e08208.	6.0	54

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37	Assessing host extinction risk following exposure to Batrachochytrium dendrobatidis. Proceedings of the Royal Society B: Biological Sciences, 2014, 281, 20132783.	2.6	12
38	Studying the emergence of complicated group-level cultural traits requires a mathematical framework. Behavioral and Brain Sciences, 2014, 37, 258-259.	0.7	0
39	CHAOS AND UNPREDICTABILITY IN EVOLUTION. Evolution; International Journal of Organic Evolution, 2014, 68, 1365-1373.	2.3	56
40	ORGANISMAL COMPLEXITY AND THE POTENTIAL FOR EVOLUTIONARY DIVERSIFICATION. Evolution; International Journal of Organic Evolution, 2014, 68, 3248-3259.	2.3	26
41	Distinguishing intrinsic limit cycles from forced oscillations in ecological time series. Theoretical Ecology, 2014, 7, 381-390.	1.0	10
42	Symmetric competition as a general model for single-species adaptive dynamics. Journal of Mathematical Biology, 2013, 67, 169-184.	1.9	12
43	Limiting similarity, species packing, and the shape of competition kernels. Journal of Theoretical Biology, 2013, 339, 3-13.	1.7	46
44	TOWARDS A GENERAL THEORY OF GROUP SELECTION. Evolution; International Journal of Organic Evolution, 2013, 67, 1561-1572.	2.3	93
45	A comment on â€œTowards a rigorous framework for studying 2-player continuous gamesâ€•by Shade T. Shutters, Journal of Theoretical Biology 321, 40â€“43, 2013. Journal of Theoretical Biology, 2013, 336, 240-241.	1.7	5
46	Parallel Evolutionary Dynamics of Adaptive Diversification in Escherichia coli. PLoS Biology, 2013, 11, e1001490.	5.6	180
47	Positive Frequency Dependence in Graffiti: An Empirical Case Study of Cultural Evolution. Journal of Cognition and Culture, 2013, 13, 287-311.	0.4	0
48	Consolidating Birth-Death and Death-Birth Processes in Structured Populations. PLoS ONE, 2013, 8, e54639.	2.5	66
49	Division of labour and the evolution of multicellularity. Proceedings of the Royal Society B: Biological Sciences, 2012, 279, 1768-1776.	2.6	87
50	Hamilton's rule in multi-level selection models. Journal of Theoretical Biology, 2012, 299, 55-63.	1.7	19
51	Reputation-Based Conditional Interaction Supports Cooperation in Well-Mixed Prisonerâ€™s Dilemmas. PLoS ONE, 2012, 7, e36260.	2.5	24
52	Omnivory can both enhance and dampen perturbations in food webs. Theoretical Ecology, 2011, 4, 55-67.	1.0	7
53	Adaptive diversification of a plastic trait in a predictably fluctuating environment. Journal of Theoretical Biology, 2011, 285, 58-68.	1.7	10
54	Continuously stable strategies as evolutionary branching points. Journal of Theoretical Biology, 2010, 266, 529-535.	1.7	9

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55	A model for the evolutionary diversification of religions. Journal of Theoretical Biology, 2010, 267, 676-684.	1.7	8
56	Epistasis and frequency dependence influence the fitness of an adaptive mutation in a diversifying lineage. Molecular Ecology, 2010, 19, no-no.	3.9	13
57	Diversity of Cooperation in the Tragedy of the Commons. Biological Theory, 2010, 5, 3-6.	1.5	26
58	Assortment is a more fundamental explanation for the evolution of altruism than inclusive fitness or multilevel selection: reply to Bijma and Aanen. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 677-678.	2.6	7
59	On the Evolution of Decoys in Plant Immune Systems. Biological Theory, 2010, 5, 256-263.	1.5	2
60	Complexity and Diversity. Science, 2010, 328, 494-497.	12.6	108
61	The Repeatability of Adaptive Radiation During Long-Term Experimental Evolution of Escherichia coli in a Multiple Nutrient Environment. PLoS ONE, 2010, 5, e14184.	2.5	39
62	Ecological dynamics and the basis of sympatric phenotypic diversification. Nature Precedings, 2009, , .	0.1	0
63	Fluctuating Population Dynamics Promotes the Evolution of Phenotypic Plasticity. American Naturalist, 2009, 174, 176-189.	2.1	75
64	Spatial structure leads to ecological breakdown and loss of diversity. Proceedings of the Royal Society B: Biological Sciences, 2009, 276, 2065-2070.	2.6	35
65	A simple and general explanation for the evolution of altruism. Proceedings of the Royal Society B: Biological Sciences, 2009, 276, 13-19.	2.6	420
66	SPECIATION DUE TO HYBRID NECROSIS IN PLANT-PATHOGEN MODELS. Evolution; International Journal of Organic Evolution, 2009, 63, 3076-3084.	2.3	18
67	EVOLUTION OF PHENOTYPIC CLUSTERS THROUGH COMPETITION AND LOCAL ADAPTATION ALONG AN ENVIRONMENTAL GRADIENT. Evolution; International Journal of Organic Evolution, 2008, 62, 807-822.	2.3	64
68	Self-destructive cooperation mediated by phenotypic noise. Nature, 2008, 454, 987-990.	27.8	384
69	Experimental demonstration of ecological character displacement. BMC Evolutionary Biology, 2008, 8, 34.	3.2	38
70	Ecological public goods games: Cooperation and bifurcation. Theoretical Population Biology, 2008, 73, 257-263.	1.1	79
71	Adaptation increases the likelihood of diversification in an experimental bacterial lineage. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 1585-1589.	7.1	43
72	Pod systems: an equivariant ordinary differential equation approach to dynamical systems on a spatial domain. Nonlinearity, 2008, 21, 1507-1531.	1.4	1

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73	Metabolic Changes Associated With Adaptive Diversification in Escherichia coli. Genetics, 2008, 178, 1049-1060.	2.9	34
74	Adaptive Diversification in Genes That Regulate Resource Use in Escherichia coli. PLoS Genetics, 2007, 3, e15.	3.5	63
75	Multimodal pattern formation in phenotype distributions of sexual populations. Proceedings of the Royal Society B: Biological Sciences, 2007, 274, 347-357.	2.6	83
76	A tale of two cycles - distinguishing quasi-cycles and limit cycles in finite predator-prey populations. Oikos, 2007, 116, 53-64.	2.7	48
77	Fluctuating population dynamics promotes the evolution of phenotypic plasticity. Nature Precedings, 2007, , .	0.1	0
78	Adaptive evolution and then what?. Nature Precedings, 2007, , .	0.1	0
79	On the evolutionary origin of aging. Aging Cell, 2007, 6, 235-244.	6.7	139
80	Quasi-Local Competition in Stage-Structured Metapopulations: A New Mechanism of Pattern Formation. Bulletin of Mathematical Biology, 2007, 69, 1649-1672.	1.9	4
81	Limits of Hamilton's rule. Journal of Evolutionary Biology, 2006, 19, 1386-1388.	1.7	17
82	Synergy and discounting of cooperation in social dilemmas. Journal of Theoretical Biology, 2006, 239, 195-202.	1.7	273
83	Scale-free extinction dynamics in spatially structured hostâ€“parasitoid systems. Journal of Theoretical Biology, 2006, 241, 745-750.	1.7	5
84	Evolutionary games and population dynamics: maintenance of cooperation in public goods games. Proceedings of the Royal Society B: Biological Sciences, 2006, 273, 2565-2571.	2.6	236
85	Models of cooperation based on the Prisoner's Dilemma and the Snowdrift game. Ecology Letters, 2005, 8, 748-766.	6.4	681
86	Adaptive speciation when assortative mating is based on female preference for male marker traits. Journal of Evolutionary Biology, 2005, 18, 1587-1600.	1.7	49
87	WHAT WE HAVE ALSO LEARNED: ADAPTIVE SPECTIATION IS THEORETICALLY PLAUSIBLE. Evolution; International Journal of Organic Evolution, 2005, 59, 691-695.	2.3	51
88	Unparallel diversification in bacterial microcosms. Proceedings of the Royal Society B: Biological Sciences, 2005, 272, 1393-1398.	2.6	29
89	WHAT WE HAVE ALSO LEARNED: ADAPTIVE SPECIATION IS THEORETICALLY PLAUSIBLE. Evolution; International Journal of Organic Evolution, 2005, 59, 691.	2.3	15
90	THE COEVOLUTIONARY DYNAMICS OF ANTAGONISTIC INTERACTIONS MEDIATED BY QUANTITATIVE TRAITS WITH EVOLVING VARIANCES. Evolution; International Journal of Organic Evolution, 2005, 59, 2073.	2.3	4

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91	What we have also learned: adaptive speciation is theoretically plausible. Evolution; International Journal of Organic Evolution, 2005, 59, 691-5; discussion 696-9.	2.3	48
92	EVOLUTION OF NICHE WIDTH AND ADAPTIVE DIVERSIFICATION. Evolution; International Journal of Organic Evolution, 2004, 58, 2599-2612.	2.3	169
93	EXPERIMENTAL EVIDENCE FOR SYMPATRIC ECOLOGICAL DIVERSIFICATION DUE TO FREQUENCY-DEPENDENT COMPETITION IN ESCHERICHIA COLI. Evolution; International Journal of Organic Evolution, 2004, 58, 245-260.	2.3	157
94	GENETIC CORRELATIONS AND THE COEVOLUTIONARY DYNAMICS OF THREE-SPECIES SYSTEMS. Evolution; International Journal of Organic Evolution, 2004, 58, 1165-1177.	2.3	54
95	Spatial structure often inhibits the evolution of cooperation in the snowdrift game. Nature, 2004, 428, 643-646.	27.8	1,254
96	Effects of neighbourhood size and connectivity on the spatial Continuous Prisoner's Dilemma. Journal of Theoretical Biology, 2004, 231, 97-106.	1.7	146
97	The Evolutionary Origin of Cooperators and Defectors. Science, 2004, 306, 859-862.	12.6	285
98	Experimental evidence for sympatric ecological diversification due to frequency-dependent competition in Escherichia coli. Evolution; International Journal of Organic Evolution, 2004, 58, 245-60.	2.3	81
99	Speciation along environmental gradients. Nature, 2003, 421, 259-264.	27.8	600
100	SEXUAL DIMORPHISM AND ADAPTIVE SPECIATION: TWO SIDES OF THE SAME ECOLOGICAL COIN. Evolution; International Journal of Organic Evolution, 2003, 57, 2433-2449.	2.3	182
101	Metapopulation dynamics with quasi-local competition. Theoretical Population Biology, 2003, 64, 397-416.	1.1	22
102	The Continuous Prisonerâ€™s Dilemma and the Evolution of Cooperation through Reciprocal Altruism with Variable Investment. American Naturalist, 2002, 160, 421-438.	2.1	130
103	A Bit of Sex Stabilizes Hostâ€“Parasite Dynamics. Journal of Theoretical Biology, 2001, 212, 345-354.	1.7	16
104	Evolutionary Branching and Sympatric Speciation Caused by Different Types of Ecological Interactions. American Naturalist, 2000, 156, S77-S101.	2.1	483
105	â€˜Raise the stakesâ€™ evolves into a defector. Nature, 1999, 400, 518-518.	27.8	15
106	Population Dynamics and the Evolution of Virulence in Epidemiological Models with Discrete Host Generations. Journal of Theoretical Biology, 1999, 198, 461-475.	1.7	31
107	Evolution of Cooperation in Spatially Structured Populations. Journal of Theoretical Biology, 1999, 200, 405-417.	1.7	146
108	On the origin of species by sympatric speciation. Nature, 1999, 400, 354-357.	27.8	1,485

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109	Genetic Variability in Sensitivity to Population Density Affects the Dynamics of Simple Ecological Models. Theoretical Population Biology, 1999, 55, 37-52.	1.1	25
110	The experimental evolution of aging in fruitflies. Experimental Gerontology, 1998, 33, 785-792.	2.8	17
111	Self-organized Criticality in Spatial Evolutionary Game Theory. Journal of Theoretical Biology, 1998, 191, 335-340.	1.7	45
112	A simple genetic model with non-equilibrium dynamics. Journal of Mathematical Biology, 1998, 36, 550-556.	1.9	10
113	Stabilization through spatial pattern formation in metapopulations with longâ€“range dispersal. Proceedings of the Royal Society B: Biological Sciences, 1998, 265, 1325-1332.	2.6	48
114	EVOLUTION OF DISPERSAL RATES IN METAPOPULATION MODELS: BRANCHING AND CYCLIC DYNAMICS IN PHENOTYPE SPACE. Evolution; International Journal of Organic Evolution, 1997, 51, 1730-1741.	2.3	116
115	Controlling spatial chaos in metapopulations with long-range dispersal. Bulletin of Mathematical Biology, 1997, 59, 497-515.	1.9	4
116	Controlling spatial chaos in metapopulations with long-range dispersal. Bulletin of Mathematical Biology, 1997, 59, 497-515.	1.9	14
117	Genetic Variation and Persistence of Predator-prey Interactions in the Nicholsonâ€“Bailey Model. Journal of Theoretical Biology, 1997, 188, 109-120.	1.7	98
118	An Explicit Genetic Model for Ecological Character Displacement. Ecology, 1996, 77, 510-520.	3.2	94
119	QUANTITATIVE GENETICS AND POPULATION DYNAMICS. Evolution; International Journal of Organic Evolution, 1996, 50, 532-546.	2.3	59
120	Heuristic optimization of the general life history problem: A novel approach. Evolutionary Ecology, 1996, 10, 81-96.	1.2	13
121	In the red zone. Nature, 1996, 380, 589-590.	27.8	25
122	Evolutionary predictions from invariant physical measures of dynamic processes. Journal of Theoretical Biology, 1995, 173, 377-387.	1.7	7
123	Phenotypic variation, sexual reproduction and evolutionary population dynamics. Journal of Evolutionary Biology, 1995, 8, 173-194.	1.7	11
124	Updating Gillespie with Controlled Chaos. American Naturalist, 1995, 146, 479-487.	2.1	12
125	Intermittent Chaos in Population Dynamics. Journal of Theoretical Biology, 1994, 166, 325-330.	1.7	16
126	Linear models for reductive group actions on affine quadrics. Bulletin De La Societe Mathematique De France, 1994, 122, 505-531.	0.2	2