

Andy Gardner

List of Publications by Year in descending order

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149
papers

13,134
citations

36303

51
h-index

26613

107
g-index

161
all docs

161
docs citations

161
times ranked

8298
citing authors

#	ARTICLE	IF	CITATIONS
1	Social semantics: altruism, cooperation, mutualism, strong reciprocity and group selection. <i>Journal of Evolutionary Biology</i> , 2007, 20, 415-432.	1.7	1,541
2	Social evolution theory for microorganisms. <i>Nature Reviews Microbiology</i> , 2006, 4, 597-607.	28.6	993
3	Evolutionary Explanations for Cooperation. <i>Current Biology</i> , 2007, 17, R661-R672.	3.9	815
4	The Social Lives of Microbes. <i>Annual Review of Ecology, Evolution, and Systematics</i> , 2007, 38, 53-77.	8.3	636
5	Sixteen common misconceptions about the evolution of cooperation in humans. <i>Evolution and Human Behavior</i> , 2011, 32, 231-262.	2.2	485
6	Inclusive fitness theory and eusociality. <i>Nature</i> , 2011, 471, E1-E4.	27.8	339
7	The genetical theory of kin selection. <i>Journal of Evolutionary Biology</i> , 2011, 24, 1020-1043.	1.7	336
8	Capturing the superorganism: a formal theory of group adaptation. <i>Journal of Evolutionary Biology</i> , 2009, 22, 659-671.	1.7	319
9	Major evolutionary transitions in individuality. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 10112-10119.	7.1	278
10	Frequency Dependence and Cooperation: Theory and a Test with Bacteria. <i>American Naturalist</i> , 2007, 170, 331-342.	2.1	266
11	GREENBEARDS. <i>Evolution; International Journal of Organic Evolution</i> , 2010, 64, 25-38.	2.3	225
12	Altruism, Spite, and Greenbeards. <i>Science</i> , 2010, 327, 1341-1344.	12.6	217
13	Bacteriocins, spite and virulence. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2004, 271, 1529-1535.	2.6	208
14	Evolutionary theory of bacterial quorum sensing: when is a signal not a signal?. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2007, 362, 1241-1249.	4.0	206
15	Cooperation and Punishment, Especially in Humans. <i>American Naturalist</i> , 2004, 164, 753-764.	2.1	205
16	Sex ratio adjustment and kin discrimination in malaria parasites. <i>Nature</i> , 2008, 453, 609-614.	27.8	198
17	Spite and the scale of competition. <i>Journal of Evolutionary Biology</i> , 2004, 17, 1195-1203.	1.7	190
18	Demography, altruism, and the benefits of budding. <i>Journal of Evolutionary Biology</i> , 2006, 19, 1707-1716.	1.7	189

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19	Cooperation and the Scale of Competition in Humans. <i>Current Biology</i> , 2006, 16, 1103-1106.	3.9	181
20	Inference of ecological and social drivers of human brain-size evolution. <i>Nature</i> , 2018, 557, 554-557.	27.8	170
21	LIMITED DISPERSAL, BUDDING DISPERSAL, AND COOPERATION: AN EXPERIMENTAL STUDY. <i>Evolution; International Journal of Organic Evolution</i> , 2009, 63, 939-949.	2.3	163
22	Adaptation and the evolution of parasite virulence in a connected world. <i>Nature</i> , 2009, 459, 983-986.	27.8	156
23	Diminishing Returns From Beneficial Mutations and Pervasive Epistasis Shape the Fitness Landscape for Rifampicin Resistance in <i>Pseudomonas aeruginosa</i> . <i>Genetics</i> , 2010, 186, 1345-1354.	2.9	156
24	Siderophore-mediated cooperation and virulence in <i>Pseudomonas aeruginosa</i> . <i>FEMS Microbiology Ecology</i> , 2007, 62, 135-141.	2.7	146
25	Pacing a small cage: mutation and RNA viruses. <i>Trends in Ecology and Evolution</i> , 2008, 23, 188-193.	8.7	136
26	Quorum sensing and the confusion about diffusion. <i>Trends in Microbiology</i> , 2012, 20, 586-594.	7.7	136
27	Social semantics: how useful has group selection been?. <i>Journal of Evolutionary Biology</i> , 2008, 21, 374-385.	1.7	134
28	The Relation between Multilocus Population Genetics and Social Evolution Theory. <i>American Naturalist</i> , 2007, 169, 207-226.	2.1	132
29	Adaptation and Inclusive Fitness. <i>Current Biology</i> , 2013, 23, R577-R584.	3.9	132
30	Spite and virulence in the bacterium <i>Pseudomonas aeruginosa</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 5703-5707.	7.1	126
31	Cooperation Peaks at Intermediate Disturbance. <i>Current Biology</i> , 2007, 17, 761-765.	3.9	122
32	Direct fitness or inclusive fitness: how shall we model kin selection?. <i>Journal of Evolutionary Biology</i> , 2007, 20, 301-309.	1.7	119
33	DENSITY DEPENDENCE AND COOPERATION: THEORY AND A TEST WITH BACTERIA. <i>Evolution; International Journal of Organic Evolution</i> , 2009, 63, 2315-2325.	2.3	115
34	Adaptation as organism design. <i>Biology Letters</i> , 2009, 5, 861-864.	2.3	107
35	Resource supply and the evolution of public-goods cooperation in bacteria. <i>BMC Biology</i> , 2008, 6, 20.	3.8	95
36	The Price equation. <i>Current Biology</i> , 2008, 18, R198-R202.	3.9	91

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37	A MODEL FOR GENOMIC IMPRINTING IN THE SOCIAL BRAIN: JUVENILES. <i>Evolution; International Journal of Organic Evolution</i> , 2010, 64, 2587-2600.	2.3	86
38	A BIOLOGICAL MARKET ANALYSIS OF THE PLANT-MYCORRHIZAL SYMBIOSIS. <i>Evolution; International Journal of Organic Evolution</i> , 2014, 68, 2603-2618.	2.3	84
39	The genetical theory of multilevel selection. <i>Journal of Evolutionary Biology</i> , 2015, 28, 305-319.	1.7	84
40	Is Bacterial Persistence a Social Trait?. <i>PLoS ONE</i> , 2007, 2, e752.	2.5	83
41	Spiteful Soldiers and Sex Ratio Conflict in Polyembryonic Parasitoid Wasps. <i>American Naturalist</i> , 2007, 169, 519-533.	2.1	79
42	A MODEL FOR GENOMIC IMPRINTING IN THE SOCIAL BRAIN: ADULTS. <i>Evolution; International Journal of Organic Evolution</i> , 2011, 65, 462-475.	2.3	75
43	The Meaning of Death: Evolution and Ecology of Apoptosis in Protozoan Parasites. <i>PLoS Pathogens</i> , 2011, 7, e1002320.	4.7	72
44	Nice natives and mean migrants: the evolution of dispersal-dependent social behaviour in viscous populations. <i>Journal of Evolutionary Biology</i> , 2008, 21, 1480-1491.	1.7	66
45	Ecological drivers of the evolution of public-goods cooperation in bacteria. <i>Ecology</i> , 2010, 91, 334-340.	3.2	65
46	Ecology, Not the Genetics of Sex Determination, Determines Who Helps in Eusocial Populations. <i>Current Biology</i> , 2013, 23, 2383-2387.	3.9	64
47	How do communication systems emerge?. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2012, 279, 1943-1949.	2.6	62
48	Sex-biased dispersal of adults mediates the evolution of altruism among juveniles. <i>Journal of Theoretical Biology</i> , 2010, 262, 339-345.	1.7	58
49	Integrating physiological, ecological and evolutionary change: a Price equation approach. <i>Ecology Letters</i> , 2009, 12, 744-757.	6.4	57
50	Social Evolution: The Decline and Fall of Genetic Kin Recognition. <i>Current Biology</i> , 2007, 17, R810-R812.	3.9	56
51	A formal theory of the selfish gene. <i>Journal of Evolutionary Biology</i> , 2011, 24, 1801-1813.	1.7	56
52	Haplodiploidy and the Evolution of Eusociality: Split Sex Ratios. <i>American Naturalist</i> , 2012, 179, 240-256.	2.1	54
53	The meaning of intragenomic conflict. <i>Nature Ecology and Evolution</i> , 2017, 1, 1807-1815.	7.8	52
54	Social evolution theory: a review of methods and approaches. , 2010, , 132-158.		51

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55	Sex and Death: The Effects of Innate Immune Factors on the Sexual Reproduction of Malaria Parasites. PLoS Pathogens, 2011, 7, e1001309.	4.7	51
56	Mating ecology explains patterns of genome elimination. Ecology Letters, 2014, 17, 1602-1612.	6.4	51
57	THE ENFORCEMENT OF COOPERATION BY POLICING. Evolution; International Journal of Organic Evolution, 2010, 64, 2139-52.	2.3	50
58	Short-Sighted Virus Evolution and a Germline Hypothesis for Chronic Viral Infections. Trends in Microbiology, 2017, 25, 336-348.	7.7	50
59	EVOLUTION OF HELPING AND HARMING IN HETEROGENEOUS POPULATIONS. Evolution; International Journal of Organic Evolution, 2012, 66, 2065-2079.	2.3	49
60	The sociobiology of sex: inclusive fitness consequences of inter-sexual interactions. Philosophical Transactions of the Royal Society B: Biological Sciences, 2012, 367, 2314-2323.	4.0	47
61	Evolution of parental care driven by mutual reinforcement of parental food provisioning and sibling competition. Proceedings of the Royal Society B: Biological Sciences, 2011, 278, 196-203.	2.6	46
62	Inclusive fitness: 50 years on. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130356.	4.0	46
63	Even more extreme fertility insurance and the sex ratios of protozoan blood parasites. Journal of Theoretical Biology, 2003, 223, 515-521.	1.7	43
64	Multicoloured greenbeards, bacteriocin diversity and the rock-paper-scissors game. Journal of Evolutionary Biology, 2013, 26, 2081-2094.	1.7	42
65	Spite. Current Biology, 2006, 16, R662-R664.	3.9	35
66	The Evolution and Ecology of Cooperation – History and Concepts. , 2008, , 1-36.		35
67	Budding dispersal and the sex ratio. Journal of Evolutionary Biology, 2009, 22, 1036-1045.	1.7	35
68	EVOLUTION OF HELPING AND HARMING IN HETEROGENEOUS GROUPS. Evolution; International Journal of Organic Evolution, 2013, 67, 2284-2298.	2.3	34
69	Haplodiploidy, Sex-Ratio Adjustment, and Eusociality. American Naturalist, 2013, 181, E60-E67.	2.1	34
70	Cosmological natural selection and the purpose of the universe. Complexity, 2013, 18, 48-56.	1.6	33
71	Repression of competition favours cooperation: experimental evidence from bacteria. Journal of Evolutionary Biology, 2010, 23, 699-706.	1.7	32
72	Price's equation made clear. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190361.	4.0	32

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73	Recombination and the evolution of mutational robustness. <i>Journal of Theoretical Biology</i> , 2006, 241, 707-715.	1.7	31
74	A MODEL FOR GENOMIC IMPRINTING IN THE SOCIAL BRAIN: ELDERS. <i>Evolution; International Journal of Organic Evolution</i> , 2012, 66, 1567-1581.	2.3	31
75	Altruism. <i>Current Biology</i> , 2006, 16, R482-R483.	3.9	30
76	A gene's-eye view of sexual antagonism. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2020, 287, 20201633.	2.6	30
77	The evolutionary consequences of plasticity in host–pathogen interactions. <i>Theoretical Population Biology</i> , 2006, 69, 323-331.	1.1	29
78	Ant Larvae as Players in Social Conflict: Relatedness and Individual Identity Mediate Cannibalism Intensity. <i>American Naturalist</i> , 2014, 184, E161-E174.	2.1	29
79	ECOLOGY: Spite Among Siblings. <i>Science</i> , 2004, 305, 1413-1414.	12.6	28
80	The causes and consequences of variation in offspring size: a case study using <i>Daphnia</i> . <i>Journal of Evolutionary Biology</i> , 2007, 20, 577-587.	1.7	28
81	Sex-biased dispersal, kin selection and the evolution of sexual conflict. <i>Journal of Evolutionary Biology</i> , 2015, 28, 1901-1910.	1.7	28
82	ARE GREENBEARDS INTRAGENOMIC OUTLAWS?. <i>Evolution; International Journal of Organic Evolution</i> , 2011, 65, 2729-2742.	2.3	27
83	The purpose of adaptation. <i>Interface Focus</i> , 2017, 7, 20170005.	3.0	27
84	Spite and the Scale of Competition in <i>Pseudomonas aeruginosa</i> . <i>American Naturalist</i> , 2011, 178, 276-285.	2.1	25
85	Evolution of Helping and Harming in Viscous Populations When Group Size Varies. <i>American Naturalist</i> , 2013, 181, 609-622.	2.1	24
86	The ecology of sex explains patterns of helping in arthropod societies. <i>Ecology Letters</i> , 2016, 19, 862-872.	6.4	24
87	A Dimensionless Invariant for Relative Size at Sex Change in Animals: Explanation and Implications. <i>American Naturalist</i> , 2005, 165, 551-566.	2.1	23
88	Misconceptions on the application of biological market theory to the mycorrhizal symbiosis. <i>Nature Plants</i> , 2016, 2, 16063.	9.3	23
89	Inclusive fitness for in-laws. <i>Biology Letters</i> , 2018, 14, 20180515.	2.3	23
90	Ecology drives intragenomic conflict over menopause. <i>Ecology Letters</i> , 2014, 17, 165-174.	6.4	21

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91	Haplodiploidy and the Evolution of Eusociality: Worker Reproduction. <i>American Naturalist</i> , 2013, 182, 421-438.	2.1	19
92	Intrafamily and intragenomic conflicts in human warfare. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2017, 284, 20162699.	2.6	19
93	IS EVOLVABILITY INVOLVED IN THE ORIGIN OF MODULAR VARIATION?. <i>Evolution; International Journal of Organic Evolution</i> , 2003, 57, 1448-1450.	2.3	18
94	Can natural selection favour altruism between species?. <i>Journal of Evolutionary Biology</i> , 2013, 26, 1854-1865.	1.7	18
95	Simultaneous failure of two sex-allocation invariants: implications for sex-ratio variation within and between populations. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2015, 282, 20150570.	2.6	18
96	Sex ratios, virginity, and local resource enhancement in a quasisocial parasitoid. <i>Entomologia Experimentalis Et Applicata</i> , 2016, 159, 243-251.	1.4	18
97	The constant philopater hypothesis: a new life history invariant for dispersal evolution. <i>Journal of Evolutionary Biology</i> , 2016, 29, 153-166.	1.7	17
98	No effect of intraspecific relatedness on public goods cooperation in a complex community. <i>Evolution; International Journal of Organic Evolution</i> , 2018, 72, 1165-1173.	2.3	17
99	The Evolution of Hermaphroditism by an Infectious Male-Derived Cell Lineage: An Inclusive-Fitness Analysis. <i>American Naturalist</i> , 2011, 178, 191-201.	2.1	16
100	Restricting mutualistic partners to enforce trade reliance. <i>Nature Communications</i> , 2016, 7, 10322.	12.8	16
101	Social Evolution: This Microbe Will Self-Destruct. <i>Current Biology</i> , 2008, 18, R1021-R1023.	3.9	15
102	Kin Selection. , 2015, , 26-31.		15
103	More on the genetical theory of multilevel selection. <i>Journal of Evolutionary Biology</i> , 2015, 28, 1747-1751.	1.7	15
104	Group selection versus group adaptation. <i>Nature</i> , 2015, 524, E3-E4.	27.8	15
105	Intragenomic Conflict over Dispersal. <i>American Naturalist</i> , 2015, 186, E61-E71.	2.1	15
106	Kin selection under blending inheritance. <i>Journal of Theoretical Biology</i> , 2011, 284, 125-129.	1.7	14
107	The social evolution of dispersal with public goods cooperation. <i>Journal of Evolutionary Biology</i> , 2013, 26, 2644-2653.	1.7	14
108	Life, the universe and everything. <i>Biology and Philosophy</i> , 2014, 29, 207-215.	1.4	14

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109	Monogamy promotes altruistic sterility in insect societies. <i>Royal Society Open Science</i> , 2018, 5, 172190.	2.4	14
110	Why war is a man's game. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2018, 285, 20180975.	2.6	14
111	Intragenomic Conflict over Soldier Allocation in Polyembryonic Parasitoid Wasps. <i>American Naturalist</i> , 2016, 187, E106-E115.	2.1	13
112	Sexual selection modulates genetic conflicts and patterns of genomic imprinting. <i>Evolution; International Journal of Organic Evolution</i> , 2017, 71, 526-540.	2.3	13
113	Evolution of maternal care in diploid and haplodiploid populations. <i>Journal of Evolutionary Biology</i> , 2012, 25, 1479-1486.	1.7	12
114	Ultimate explanations concern the adaptive rationale for organism design. <i>Biology and Philosophy</i> , 2013, 28, 787-791.	1.4	12
115	Evolution of paternal care in diploid and haplodiploid populations. <i>Journal of Evolutionary Biology</i> , 2014, 27, 1012-1019.	1.7	12
116	Haplodiploidy and the Evolution of Eusociality: Worker Revolution. <i>American Naturalist</i> , 2014, 184, 303-317.	2.1	12
117	Genomic imprinting and the units of adaptation. <i>Heredity</i> , 2014, 113, 104-111.	2.6	12
118	Mother and Offspring in Conflict: Why Not?. <i>PLoS Biology</i> , 2015, 13, e1002084.	5.6	12
119	Adjustment of sex allocation to foundress number and kinship under local mate competition: An inclusive fitness analysis. <i>Journal of Evolutionary Biology</i> , 2020, 33, 1806-1812.	1.7	12
120	Does kin discrimination promote cooperation?. <i>Biology Letters</i> , 2020, 16, 20190742.	2.3	12
121	Sex, males, and hermaphrodites in the scale insect <i>Icerya purchasi</i> *. <i>Evolution; International Journal of Organic Evolution</i> , 2021, 75, 2972-2983.	2.3	12
122	Kin discrimination and demography modulate patterns of sexual conflict. <i>Nature Ecology and Evolution</i> , 2020, 4, 1141-1148.	7.8	12
123	Total reproductive value of juvenile females is twice that of juvenile males under X-linkage and haplodiploidy. <i>Journal of Theoretical Biology</i> , 2014, 359, 236-237.	1.7	11
124	A general ploidy model for the evolution of helping in viscous populations. <i>Journal of Theoretical Biology</i> , 2012, 304, 297-303.	1.7	10
125	Resource heterogeneity and the evolution of public goods cooperation. <i>Evolution Letters</i> , 2020, 4, 155-163.	3.3	10
126	The demography of human warfare can drive sex differences in altruism. <i>Evolutionary Human Sciences</i> , 2020, 2, .	1.7	10

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127	Dynamics of sex ratio and female unmatedness under haplodiploidy. <i>Ecology and Evolution</i> , 2014, 4, 1623-1628.	1.9	9
128	How to make a haploid male. <i>Evolution Letters</i> , 2019, 3, 173-184.	3.3	9
129	The greenbeard effect. <i>Current Biology</i> , 2019, 29, R430-R431.	3.9	9
130	Sexual antagonism in haplodiploids. <i>Evolution; International Journal of Organic Evolution</i> , 2022, 76, 292-309.	2.3	9
131	Sexual selection in complex communities: Integrating interspecific reproductive interference in structured populations. <i>Evolution; International Journal of Organic Evolution</i> , 2019, 73, 1025-1036.	2.3	7
132	Reproductive value and the evolution of altruism. <i>Trends in Ecology and Evolution</i> , 2022, 37, 346-358.	8.7	7
133	Darwinism, not mutationism, explains the design of organisms. <i>Progress in Biophysics and Molecular Biology</i> , 2013, 111, 97-98.	2.9	6
134	The relation between R. A. Fisher's sexy-son hypothesis and W. D. Hamilton's greenbeard effect. <i>Evolution Letters</i> , 2018, 2, 190-200.	3.3	6
135	Communication in bacteria. , 2008, , 11-32.		6
136	Wild, Gardner & West reply. <i>Nature</i> , 2010, 463, E9-E10.	27.8	5
137	Genomic Imprinting As a Window into Human Language Evolution. <i>BioEssays</i> , 2019, 41, 1800212.	2.5	5
138	Population viscosity promotes altruism under density-dependent dispersal. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2022, 289, 20212668.	2.6	5
139	The agent concept is a scientific tool. <i>Metascience</i> , 2019, 28, 359-363.	0.3	4
140	The social evolution of sleep: sex differences, intragenomic conflicts and clinical pathologies. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2019, 286, 20182188.	2.6	4
141	The evolution of religiosity by kin selection. <i>Religion, Brain and Behavior</i> , 2022, 12, 347-364.	0.7	4
142	What do humans maximize?. , 2012, , 23-49.		3
143	Intragroup and intragenomic conflict over chemical defense against predators. <i>Ecology and Evolution</i> , 2018, 8, 3322-3329.	1.9	3
144	Parent-of-origin specific gene expression and dispersal. <i>Current Opinion in Behavioral Sciences</i> , 2019, 25, 36-43.	3.9	3

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145	The Strategic Revolution. Cell, 2016, 166, 1345-1348.	28.9	2
146	Sex-biased demography modulates male harm across the genome. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20212237.	2.6	2
147	Inclusive fitness. New Scientist, 2011, 211, 30.	0.0	1
148	Hamilton's Rule. American Naturalist, 2015, 186, ii-iii.	2.1	1
149	IS EVolvABILITY INVOLVED IN THE ORIGIN OF MODULAR VARIATION?. Evolution; International Journal of Organic Evolution, 2003, 57, 1448.	2.3	0