Brandon S Gaut

List of Publications by Year
in descending order

138 papers	22,704 citations	16411 64 h-index	11288 136 g-index
150 all docs	150 docs citations	150 times ranked	19641 citing authors

#	Article	IF	Citations
1	A unified mixed-model method for association mapping that accounts for multiple levels of relatedness. Nature Genetics, 2006, 38, 203-208.	9.4	3,622
2	The Molecular Genetics of Crop Domestication. Cell, 2006, 127, 1309-1321.	13.5	1,701
3	The paleontology of intergene retrotransposons of maize. Nature Genetics, 1998, 20, 43-45.	9.4	953
4	The Arabidopsis lyrata genome sequence and the basis of rapid genome size change. Nature Genetics, 2011, 43, 476-481.	9.4	814
5	The Effects of Artificial Selection on the Maize Genome. Science, 2005, 308, 1310-1314.	6.0	742
6	The Molecular Diversity of Adaptive Convergence. Science, 2012, 335, 457-461.	6.0	688
7	Maize HapMap2 identifies extant variation from a genome in flux. Nature Genetics, 2012, 44, 803-807.	9.4	577
8	Epigenetic silencing of transposable elements: A trade-off between reduced transposition and deleterious effects on neighboring gene expression. Genome Research, 2009, 19, 1419-1428.	2.4	569
9	Plant domestication, a unique opportunity to identify the genetic basis of adaptation. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8641-8648.	3.3	385
10	Evolutionary dynamics of grass genomes. New Phytologist, 2002, 154, 15-28.	3.5	376
11	The Capsella rubella genome and the genomic consequences of rapid mating system evolution. Nature Genetics, 2013, 45, 831-835.	9.4	374
12	Multilocus Analysis of Nucleotide Variation of Oryza sativa and Its Wild Relatives: Severe Bottleneck during Domestication of Rice. Molecular Biology and Evolution, 2007, 24, 875-888.	3.5	329
13	Transposable elements and small RNAs contribute to gene expression divergence between <i>Arabidopsis thaliana</i> and <i>Arabidopsis lyrata</i>. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 2322-2327.	3.3	308
14	Xa21D Encodes a Receptor-like Molecule with a Leucine-Rich Repeat Domain That Determines Race-Specific Recognition and Is Subject to Adaptive Evolution. Plant Cell, 1998, 10, 765-779.	3.1	304
15	Molecular Population Genetics and the Search for Adaptive Evolution in Plants. Molecular Biology and Evolution, 2005, 22, 506-519.	3.5	301
16	Genetic diversity and selection in the maize starch pathway. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12959-12962.	3.3	298
17	Receptor-like Genes in the Major Resistance Locus of Lettuce Are Subject to Divergent Selection. Plant Cell, 1998, 10, 1833-1846.	3.1	288
18	Patterns of Positive Selection in the Complete NBS-LRR Gene Family of Arabidopsis thaliana. Genome Research, 2002, 12, 1305-1315.	2.4	278

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19	Relative rates of nucleotide substitution at the rbcl locus of monocotyledonous plants. Journal of Molecular Evolution, 1992, 35, 292-303.	0.8	276
20	Striking Similarities in the Genomic Distribution of Tandemly Arrayed Genes in Arabidopsis and Rice. PLoS Computational Biology, 2006, 2, e115.	1.5	265
21	A triptych of the evolution of plant transposable elements. Trends in Plant Science, 2010, 15, 471-478.	4.3	254
22	Selection Versus Demography: A Multilocus Investigation of the Domestication Process in Maize. Molecular Biology and Evolution, 2004, 21, 1214-1225.	3.5	251
23	Evolutionary genomics of grape (<i>Vitis vinifera</i> ssp. <i>vinifera</i>) domestication. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11715-11720.	3.3	236
24	A Large-Scale Screen for Artificial Selection in Maize Identifies Candidate Agronomic Loci for Domestication and Crop Improvement. Plant Cell, 2005, 17, 2859-2872.	3.1	234
25	Timing and rate of speciation in Agave (Agavaceae). Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 9124-9129.	3.3	230
26	The population genetics of structural variants in grapevine domestication. Nature Plants, 2019, 5, 965-979.	4.7	229
27	Olive domestication and diversification in the Mediterranean Basin. New Phytologist, 2015, 206, 436-447.	3.5	227
28	Recombination: an underappreciated factor in the evolution of plant genomes. Nature Reviews Genetics, 2007, 8, 77-84.	7.7	223
29	Body-Methylated Genes in Arabidopsis thaliana Are Functionally Important and Evolve Slowly. Molecular Biology and Evolution, 2012, 29, 219-227.	3.5	222
30	The Lowdown on Linkage Disequilibrium. Plant Cell, 2003, 15, 1502-1506.	3.1	217
31	Gene body methylation is conserved between plant orthologs and is of evolutionary consequence. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 1797-1802.	3.3	206
32	Molecular and functional diversity of maize. Current Opinion in Plant Biology, 2006, 9, 172-176.	3.5	201
33	Genetic diversity in domesticated soybean (<i>Glycine max</i>) and its wild progenitor (<i>Glycine) Tj ETQq1 1 0.784314 rgBT /Overl 188, 242-253.	3.5	181
34	Evolutionary patterns of genic DNA methylation vary across land plants. Nature Plants, 2016, 2, 15222.	4.7	178
35	Historical Divergence and Gene Flow in the Genus Zea. Genetics, 2009, 181, 1399-1413.	1.2	175
36	Demography and its effects on genomic variation in crop domestication. Nature Plants, 2018, 4, 512-520.	4.7	173

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37	Do genetic recombination and gene density shape the pattern of DNA elimination in rice long terminal repeat retrotransposons?. Genome Research, 2009, 19, 2221-2230.	2.4	169
38	Genome Size and Transposable Element Content as Determined by High-Throughput Sequencing in Maize and Zea luxurians. Genome Biology and Evolution, 2011, 3, 219-229.	1.1	167
39	Patterns of Polymorphism and Demographic History in Natural Populations of Arabidopsis lyrata. PLoS ONE, 2008, 3, e2411.	1.1	163
40	Extensive gene gain associated with adaptive evolution of poxviruses. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 15655-15660.	3.3	161
41	Factors that Contribute to Variation in Evolutionary Rate among Arabidopsis Genes. Molecular Biology and Evolution, 2011, 28, 2359-2369.	3.5	149
42	Plant conserved non-coding sequences and paralogue evolution. Trends in Genetics, 2005, 21, 60-65.	2.9	147
43	Genomics and the Contrasting Dynamics of Annual and Perennial Domestication. Trends in Genetics, 2015, 31, 709-719.	2.9	145
44	Evolution of Anthocyanin Biosynthesis in Maize Kernels: The Role of Regulatory and Enzymatic Loci. Genetics, 1996, 143, 1395-1407.	1.2	144
45	Selection on grain shattering genes and rates of rice domestication. New Phytologist, 2009, 184, 708-720.	3.5	140
46	The Patterns and Causes of Variation in Plant Nucleotide Substitution Rates. Annual Review of Ecology, Evolution, and Systematics, 2011, 42, 245-266.	3.8	136
47	Gene Conversion and the Evolution of Three Leucine-Rich Repeat Gene Families in Arabidopsis thaliana. Molecular Biology and Evolution, 2005, 22, 2444-2456.	3.5	131
48	Genetic Diversity in Seven Perennial Ryegrass (<i>Lolium perenne</i> L.) Cultivars Based on SSR Markers. Crop Science, 2001, 41, 1565-1572.	0.8	124
49	The genetic basis of sex determination in grapes. Nature Communications, 2020, 11, 2902.	5.8	118
50	Patterns of Nucleotide Substitution Among Simultaneously Duplicated Gene Pairs in Arabidopsis thaliana. Molecular Biology and Evolution, 2002, 19, 1464-1473.	3.5	117
51	Speciation and Domestication in Maize and Its Wild Relatives: Evidence From the Globulin-1 Gene. Genetics, 1998, 150, 863-872.	1.2	112
52	Genome size variation in wild and cultivated maize along altitudinal gradients. New Phytologist, 2013, 199, 264-276.	3.5	107
53	Demography and weak selection drive patterns of transposable element diversity in natural populations of <i>Arabidopsis lyrata</i>. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 13965-13970.	3.3	99
54	Linkage Mapping of Domestication Loci in a Large Maizeâ€"Teosinte Backcross Resource. Genetics, 2007, 177, 1915-1928.	1.2	97

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55	Epigenetics and plant genome evolution. Current Opinion in Plant Biology, 2014, 18, 1-8.	3.5	90
56	Different tradeoffs result from alternate genetic adaptations to a common environment. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12121-12126.	3.3	89
57	Patterns of Diversity and Recombination Along Chromosome 1 of Maize (<i>Zea mays</i> ssp.) Tj ETQq1 1 0.784314 rgBT /Overlock 10	1.2	86
58	Adaptive selection of mitochondrial complex I subunits during primate radiation. Gene, 2006, 378, 11-18.	1.0	85
59	The evolution of transposable elements in natural populations of self-fertilizing Arabidopsis thaliana and its outcrossing relative Arabidopsis lyrata. BMC Evolutionary Biology, 2010, 10, 10.	3.2	84
60	Does Recombination Shape the Distribution and Evolution of Tandemly Arrayed Genes (TAGs) in the Arabidopsis thaliana Genome?. Genome Research, 2003, 13, 2533-2540.	2.4	79
61	Comparing Patterns of Nucleotide Substitution Rates Among Chloroplast Loci Using the Relative Ratio Test. Genetics, 1997, 146, 393-399.	1.2	79
62	Inferences from the Historical Distribution of Wild and Domesticated Maize Provide Ecological and Evolutionary Insight. PLoS ONE, 2012, 7, e47659.	1.1	79
63	Selection on Amino Acid Substitutions in Arabidopsis. Molecular Biology and Evolution, 2008, 25, 1375-1383.	3.5	71
64	Variation in Mutation Dynamics Across the Maize Genome as a Function of Regional and Flanking Base Composition. Genetics, 2006, 172, 569-577.	1.2	70
65	The Contribution of Transposable Elements to Expressed Coding Sequence in Arabidopsis thaliana. Journal of Molecular Evolution, 2009, 68, 80-89.	0.8	68
66	Deleterious variants in Asian rice and the potential cost of domestication. Molecular Biology and Evolution, 2017, 34, msw296.	3.5	68
67	Mapping Salinity Tolerance during Arabidopsis thaliana Germination and Seedling Growth. PLoS ONE, 2011, 6, e22832.	1.1	66
68	The genomic diversification of grapevine clones. BMC Genomics, 2019, 20, 972.	1.2	66
69	EVOLUTIONARY RADIATION OF "STONE PLANTS" IN THE GENUS ARGYRODERMA (AIZOACEAE): UNRAVELING THE EFFECTS OF LANDSCAPE, HABITAT, AND FLOWERING TIME. Evolution; International Journal of Organic Evolution, 2006, 60, 39-55.	1.1	65
70	Testing for Effects of Recombination Rate on Nucleotide Diversity in Natural Populations of Arabidopsis lyrata. Genetics, 2006, 174, 1421-1430.	1.2	64
71	Population and Evolutionary Dynamics of Helitron Transposable Elements in Arabidopsis thaliana. Molecular Biology and Evolution, 2007, 24, 2515-2524.	3.5	64
72	The evolutionary genomics of speciesâ€™ responses to climate change. Nature Ecology and Evolution, 2021, 5, 1350-1360.	3.4	63

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73	Relative Rates of Nucleotide Substitution in the Chloroplast Genome. Molecular Phylogenetics and Evolution, 1993, 2, 89-96.	1.2	62
74	Selection on Major Components of Angiosperm Genomes. Science, 2008, 320, 484-486.	6.0	62
75	Retrogenes in Rice (Oryza sativa L. ssp. japonica) Exhibit Correlated Expression with Their Source Genes. Genome Biology and Evolution, 2011, 3, 1357-1368.	1.1	62
76	Molecular Evolution of the Wound-Induced Serine Protease Inhibitor wip1 in Zea and Related Genera. Molecular Biology and Evolution, 2001, 18, 2092-2101.	3.5	61
77	First-Step Mutations during Adaptation Restore the Expression of Hundreds of Genes. Molecular Biology and Evolution, 2016, 33, 25-39.	3.5	60
78	Lowly Expressed Genes in Arabidopsis thaliana Bear the Signature of Possible Pseudogenization by Promoter Degradation. Molecular Biology and Evolution, 2011, 28, 1193-1203.	3.5	59
79	Evolutionary Genomics of Structural Variation in Asian Rice (<i>Oryza sativa</i>) Domestication. Molecular Biology and Evolution, 2020, 37, 3507-3524.	3.5	58
80	Uneven distribution of expressed sequence tag loci on maize pachytene chromosomes. Genome Research, 2005, 16, 115-122.	2.4	56
81	How Single Molecule Real-Time Sequencing and Haplotype Phasing Have Enabled Reference-Grade Diploid Genome Assembly of Wine Grapes. Frontiers in Plant Science, 2017, 8, 826.	1.7	55
82	Population Genetics of Duplicated Disease-Defense Genes, <i>hm1</i> and <i>hm2</i>, in Maize (<i>Zea) Tj ETQq0 0 0 rgBT /Overlock 1 2002, 162, 851-860.	1.2	53
83	Three Groups of Transposable Elements with Contrasting Copy Number Dynamics and Host Responses in the Maize (Zea mays ssp. mays) Genome. PLoS Genetics, 2014, 10, e1004298.	1.5	52
84	Assesing the Abundance and Polymorphism of Simple Sequence Repeats in Perennial Ryegrass. Crop Science, 1999, 39, 1136-1141.	0.8	51
85	A Survey of the Molecular Evolutionary Dynamics of Twenty-Five Multigene Families from Four Grass Taxa. Journal of Molecular Evolution, 2001, 52, 144-156.	0.8	49
86	Divergence with gene flow is driven by local adaptation to temperature and soil phosphorus concentration in teosinte subspecies (<i>Zea mays parviglumis</i> and <i>Zea mays mexicana</i>). Molecular Ecology, 2019, 28, 2814-2830.	2.0	48
87	Indel-Associated Mutation Rate Varies with Mating System in Flowering Plants. Molecular Biology and Evolution, 2010, 27, 409-416.	3.5	47
88	Maize transposable elements contribute to long non-coding RNAs that are regulatory hubs for abiotic stress response. BMC Genomics, 2019, 20, 864.	1.2	47
89	Living with Two Genomes: Grafting and Its Implications for Plant Genome-to-Genome Interactions, Phenotypic Variation, and Evolution. Annual Review of Genetics, 2019, 53, 195-215.	3.2	46
90	LineUp: Statistical Detection of Chromosomal Homology With Application to Plant Comparative Genomics. Genome Research, 2003, 13, 999-1010.	2.4	45

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91	Neutral and Nonneutral Mitochondrial Genetic Variation in Deep-Sea Clams from the Family Vesicomyidae. Journal of Molecular Evolution, 2000, 50, 141-153.	0.8	43
92	The genome-wide dynamics of purging during selfing in maize. Nature Plants, 2019, 5, 980-990.	4.7	42
93	Evolution Is an Experiment: Assessing Parallelism in Crop Domestication and Experimental Evolution. Molecular Biology and Evolution, 2015, 32, 1661-1671.	3.5	41
94	Sequence Diversity in the Tetraploid Zea perennis and the Closely Related Diploid Z. diploperennis: Insights From Four Nuclear Loci. Genetics, 2001, 158, 401-412.	1.2	41
95	Genetic Evidence and the Origin of Maize. Latin American Antiquity, 2001, 12, 84-86.	0.3	39
96	Mechanistic and evolutionary questions about epigenetic conflicts between transposable elements and their plant hosts. Current Opinion in Plant Biology, 2016, 30, 123-133.	3.5	39
97	Genomic evidence for recurrent genetic admixture during the domestication of Mediterranean olive trees (Olea europaea L.). BMC Biology, 2020, 18, 148.	1.7	39
98	Gene Body Methylation in Plants: Mechanisms, Functions, and Important Implications for Understanding Evolutionary Processes. Genome Biology and Evolution, 2022, 14, .	1.1	39
99	Fine scale genetic structure in the wild ancestor of maize (<i>Zea mays</i>ssp.<i>parviglumis</i>). Molecular Ecology, 2010, 19, 1162-1173.	2.0	37
100	Seasonal Changes in a Maize-Based Polyculture of Central Mexico Reshape the Co-occurrence Networks of Soil Bacterial Communities. Frontiers in Microbiology, 2017, 8, 2478.	1.5	36
101	Modeling Interactions between Transposable Elements and the Plant Epigenetic Response: A Surprising Reliance on Element Retention. Genome Biology and Evolution, 2018, 10, 803-815.	1.1	35
102	The Interaction of Protein Structure, Selection, and Recombination on the Evolution of the Type-1 Fimbrial Major Subunit (fimA) from Escherichia coli. Journal of Molecular Evolution, 2001, 52, 193-204.	0.8	34
103	Population Genetic Evidence for Rapid Changes in Intraspecific Diversity and Allelic Cycling of a Specialist Defense Gene in ZeaSequence data from this article have been deposited with the EMBL/GenBank Data Libraries under accession nos. AY320258â€“320280, AY52550, AY52551, AY52552, AY52553, AY52554, AY52555, AY52556, AY52557, AY52558, AY52559, and AY549598, AY549599, AY549600, AY549601, AY549602, AY549603, AY549604, AY549605, AY549606, AY549607, AY549608, AY549609, AY549610, AY549611, AY549612, AY549613, AY5. Genetics, 2004, 168, 425-434.	1.2	34
104	The Evolutionary Dynamics of Orthologs That Shift in Gene Body Methylation between Arabidopsis Species. Molecular Biology and Evolution, 2017, 34, 1479-1491.	3.5	29
105	Loss of Gene Body Methylation in<i>Eutrema salsugineum</i>Is Associated with Reduced Gene Expression. Molecular Biology and Evolution, 2019, 36, 155-158.	3.5	29
106	Phylogenetic Shifts in Gene Body Methylation Correlate with Gene Expression and Reflect Trait Conservation. Molecular Biology and Evolution, 2020, 37, 31-43.	3.5	29
107	The 3D architecture of the pepper genome and its relationship to function and evolution. Nature Communications, 2022, 13, .	5.8	28
108	Adaptive Mutations in RNA Polymerase and the Transcriptional Terminator Rho Have Similar Effects on Escherichia coli Gene Expression. Molecular Biology and Evolution, 2017, 34, 2839-2855.	3.5	27

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109	CHH Methylation Islands: A Nonconserved Feature of Grass Genomes That Is Positively Associated with Transposable Elements but Negatively Associated with Gene-Body Methylation. Genome Biology and Evolution, 2021, 13, .	1.1	25
110	Introgression among North American wild grapes (Vitis) fuels biotic and abiotic adaptation. Genome Biology, 2021, 22, 254.	3.8	25
111	CG Methylation Covaries with Differential Gene Expression between Leaf and Floral Bud Tissues of Brachypodium distachyon. PLoS ONE, 2016, 11, e0150002.	1.1	25
112	The phenotypic signature of adaptation to thermal stress in Escherichia coli. BMC Evolutionary Biology, 2015, 15, 177.	3.2	24
113	Phylogenetic analysis, genome evolution and the rate of gene gain in the Herpesviridae. Molecular Phylogenetics and Evolution, 2007, 43, 1066-1075.	1.2	22
114	Recent Retrotransposon Insertions Are Methylated and Phylogenetically Clustered in Japonica Rice (Oryza sativa spp. japonica). Molecular Biology and Evolution, 2012, 29, 3193-3203.	3.5	22
115	Arabidopsis thaliana as a model for the genetics of local adaptation. Nature Genetics, 2012, 44, 115-116.	9.4	22
116	A role for palindromic structures in the <i>cis</i>-region of maize Sirevirus LTRs in transposable element evolution and host epigenetic response. Genome Research, 2016, 26, 226-237.	2.4	22
117	Structural variation and parallel evolution of apomixis in citrus during domestication and diversification. National Science Review, 2022, 9, .	4.6	19
118	Patterns of Selection and Tissue-Specific Expression among Maize Domestication and Crop Improvement Loci. Plant Physiology, 2007, 144, 1642-1653.	2.3	17
119	The complex domestication history of the common bean. Nature Genetics, 2014, 46, 663-664.	9.4	17
120	Gene capture by transposable elements leads to epigenetic conflict in maize. Molecular Plant, 2021, 14, 237-252.	3.9	17
121	Evolutionary Genomics and the Domestication of Grapes. Compendium of Plant Genomes, 2019, , 39-55.	0.3	17
122	EvoChromo: towards a synthesis of chromatin biology and evolution. Development (Cambridge), 2019, 146, .	1.2	16
123	Receptor-Like Genes in the Major Resistance Locus of Lettuce Are Subject to Divergent Selection. Plant Cell, 1998, 10, 1833.	3.1	15
124	Spatial scale of local adaptation and population genetic structure in a miniature succulent, Argyroderma pearsonii. New Phytologist, 2007, 174, 904-914.	3.5	15
125	Multiple introductions and population structure during the rapid expansion of the invasive Sahara mustard (<i>Brassica tournefortii</i>). Ecology and Evolution, 2019, 9, 7928-7941.	0.8	13
126	The jury may be out, but it is important that it deliberates: a response to Besnard and Rubio de Casas about olive domestication. New Phytologist, 2016, 209, 471-473.	3.5	11

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127	Considerations and complications of mapping small RNA high-throughput data to transposable elements. Mobile DNA, 2017, 8, 3.	1.3	11
128	Inferring plant evolutionary history from molecular data. New Zealand Journal of Botany, 1993, 31, 307-315.	0.8	10
129	Gene body methylation is under selection in <i>Arabidopsis thaliana</i>. Genetics, 2021, 218, .	1.2	10
130	HapSolo: an optimization approach for removing secondary haplotigs during diploid genome assembly and scaffolding. BMC Bioinformatics, 2021, 22, 9.	1.2	9
131	Empirical Analysis of Selection Screens for Domestication and Improvement Loci in Maize by Extended DNA Sequencing. Plant Genome, 2008, 1, .	1.6	5
132	Evolution in the Genus Zea: Lessons from Studies of Nucleotide Polymorphism. Plant Species Biology, 1996, 11, 1-11.	0.6	4
133	A Weak Effect of Background Selection on Trinucleotide Microsatellites in Maize. Journal of Heredity, 2007, 99, 45-55.	1.0	3
134	Genetic Mutations That Drive Evolutionary Rescue to Lethal Temperature in <i>Escherichia coli</i>. Genome Biology and Evolution, 2020, 12, 2029-2044.	1.1	3
135	A convergent outcome: small genomes in mangroves. New Phytologist, 2018, 217, 5-7.	3.5	2
136	Large chromosomal variants drive adaptation in sunflowers. Nature Plants, 2020, 6, 734-735.	4.7	2
137	Natural rubber and the Russian dandelion genome. National Science Review, 2018, 5, 88-89.	4.6	1
138	Sahara mustard as a major threat to desert biodiversity in the southwest United States and the need to integrate contemporary methods to understand its biology. Ecology and Evolution, 2020, 10, 14453-14455.	0.8	0