

Transcriptome analyses of primitively eusocial wasps reveal the evolution of sociality and the origin of alternative phenotypes

Genome Biology

14, R20

DOI: [10.1186/gb-2013-14-2-r20](https://doi.org/10.1186/gb-2013-14-2-r20)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Social insect genomes exhibit dramatic evolution in gene composition and regulation while preserving regulatory features linked to sociality. <i>Genome Research</i> , 2013, 23, 1235-1247.	2.4	205
2	Sociogenomics of Cooperation and Conflict during Colony Founding in the Fire Ant <i>Solenopsis invicta</i> . <i>PLoS Genetics</i> , 2013, 9, e1003633.	1.5	35
3	Population genomics of the honey bee reveals strong signatures of positive selection on worker traits. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 2614-2619.	3.3	177
4	Pleiotropy constrains the evolution of protein but not regulatory sequences in a transcription regulatory network influencing complex social behaviors. <i>Frontiers in Genetics</i> , 2014, 5, 431.	1.1	30
5	Neutral and adaptive explanations for an association between caste-biased gene expression and rate of sequence evolution. <i>Frontiers in Genetics</i> , 2014, 5, 297.	1.1	23
6	The importance of genomic novelty in social evolution. <i>Molecular Ecology</i> , 2014, 23, 26-28.	2.0	54
7	The role of juvenile hormone in dominance behavior, reproduction and cuticular pheromone signaling in the caste-flexible epiponine wasp, <i>Synoecca surinama</i> . <i>Frontiers in Zoology</i> , 2014, 11, 78.	0.9	55
8	Extensive Local Gene Duplication and Functional Divergence among Paralogs in Atlantic Salmon. <i>Genome Biology and Evolution</i> , 2014, 6, 1790-1805.	1.1	43
9	Comparative methods offer powerful insights into social evolution in bees. <i>Apidologie</i> , 2014, 45, 289-305.	0.9	74
10	Shared genes related to aggression, rather than chemical communication, are associated with reproductive dominance in paper wasps ( <i>Polistes metricus</i> ). <i>BMC Genomics</i> , 2014, 15, 75.	1.2	82
11	Hamilton's rule and the causes of social evolution. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130362.	1.8	145
12	Molecular heterochrony and the evolution of sociality in bumblebees ( <i>Bombus terrestris</i> ). <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2014, 281, 20132419.	1.2	39
13	Honey bee sociogenomics: a genome-scale perspective on bee social behavior and health. <i>Apidologie</i> , 2014, 45, 375-395.	0.9	28
14	Me and we: the interplay between individual and group behavioral variation in social collectives. <i>Current Opinion in Insect Science</i> , 2014, 5, 16-24.	2.2	25
15	Caste-specific RNA editomes in the leaf-cutting ant <i>Acromyrmex echinatior</i> . <i>Nature Communications</i> , 2014, 5, 4943.	5.8	60
16	Eusocial insects as emerging models for behavioural epigenetics. <i>Nature Reviews Genetics</i> , 2014, 15, 677-688.	7.7	186
17	An Introduction to Epigenetics as the Link Between Genotype and Environment: A Personal View. <i>Reproduction in Domestic Animals</i> , 2014, 49, 2-10.	0.6	19
18	Comparative genomics and transcriptomics in ants provide new insights into the evolution and function of odorant binding and chemosensory proteins. <i>BMC Genomics</i> , 2014, 15, 718.	1.2	82

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19	Transcriptome analyses and differential gene expression in a non-model fish species with alternative mating tactics. <i>BMC Genomics</i> , 2014, 15, 167.	1.2	76
20	Opening the genetic toolbox of niche model organisms with high throughput techniques: Novel proteins in regeneration as a case study. <i>BioEssays</i> , 2014, 36, 407-418.	1.2	7
21	Gene expression patterns associated with caste and reproductive status in ants: worker-specific genes are more derived than queen-specific ones. <i>Molecular Ecology</i> , 2014, 23, 151-161.	2.0	112
22	Cheating workers with large activated ovaries avoid risky foraging. <i>Behavioral Ecology</i> , 2014, 25, 668-674.	1.0	16
23	Genes associated with ant social behavior show distinct transcriptional and evolutionary patterns. <i>ELife</i> , 2015, 4, e04775.	2.8	78
24	Climbing the social ladder: the molecular evolution of sociality. <i>Trends in Ecology and Evolution</i> , 2015, 30, 426-433.	4.2	150
25	Developmental Transcriptome for a Facultatively Eusocial Bee, <i>Megalopta genalis</i> . <i>G3: Genes, Genomes, Genetics</i> , 2015, 5, 2127-2135.	0.8	18
26	Data quality aware analysis of differential expression in RNA-seq with NOISeq R/Bioc package. <i>Nucleic Acids Research</i> , 2015, 43, gkv711.	6.5	605
27	Comprehensive Transcriptome Analysis Reveals Accelerated Genic Evolution in a Tibet Fish, <i>Gymnodiptychus pachycheilus</i> . <i>Genome Biology and Evolution</i> , 2015, 7, 251-261.	1.1	112
28	The Molecular and Evolutionary Genetic Implications of Being Truly Social for the Social Insects. <i>Advances in Insect Physiology</i> , 2015, , 271-292.	1.1	32
29	Physiological and Genomic Mechanisms of Social Organization in Wasps (Family: Vespidae). <i>Advances in Insect Physiology</i> , 2015, 48, 95-130.	1.1	27
30	Social parasitism and the molecular basis of phenotypic evolution. <i>Frontiers in Genetics</i> , 2015, 6, 32.	1.1	21
31	Nourishment level affects caste-related gene expression in <i>Polistes</i> wasps. <i>BMC Genomics</i> , 2015, 16, 235.	1.2	50
32	Genomic signatures of evolutionary transitions from solitary to group living. <i>Science</i> , 2015, 348, 1139-1143.	6.0	357
33	De novo transcriptome characterization and gene expression profiling of the desiccation tolerant moss <i>Bryum argenteum</i> following rehydration. <i>BMC Genomics</i> , 2015, 16, 416.	1.2	73
34	RNA-sequencing elucidates the regulation of behavioural transitions associated with the mating process in honey bee queens. <i>BMC Genomics</i> , 2015, 16, 563.	1.2	34
35	We can't all be supermodels: the value of comparative transcriptomics to the study of non-model insects. <i>Insect Molecular Biology</i> , 2015, 24, 139-154.	1.0	82
36	Molecular signatures of plastic phenotypes in two eusocial insect species with simple societies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 13970-13975.	3.3	192

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37	Caste biases in gene expression are specific to developmental stage in the ant <i>Formica exsecta</i> . <i>Journal of Evolutionary Biology</i> , 2015, 28, 1705-1718.	0.8	28
38	Comparative Transcriptomics of Convergent Evolution: Different Genes but Conserved Pathways Underlie Caste Phenotypes across Lineages of Eusocial Insects. <i>Molecular Biology and Evolution</i> , 2015, 32, 690-703.	3.5	161
39	Neural Gene Expression Profiles and Androgen Levels Underlie Alternative Reproductive Tactics in the Ocellated Wrasse, <i>Symphodus ocellatus</i> . <i>Ethology</i> , 2015, 121, 152-167.	0.5	32
40	Transcriptome Profile of the Asian Giant Hornet ( <i>Vespa mandarinia</i> ) Using Illumina HiSeq 4000 Sequencing: <i>De Novo</i> Assembly, Functional Annotation, and Discovery of SSR Markers. <i>International Journal of Genomics</i> , 2016, 2016, 1-15.	0.8	24
41	Theoretical Predictions for Sociogenomic Data: The Effects of Kin Selection and Sex-Limited Expression on the Evolution of Social Insect Genomes. <i>Frontiers in Ecology and Evolution</i> , 2016, 4, .	1.1	25
42	Gene expression and variation in social aggression by queens of the harvester ant <i>Pogonomyrmex californicus</i> . <i>Molecular Ecology</i> , 2016, 25, 3716-3730.	2.0	18
43	Genome, transcriptome and methylome sequencing of a primitively eusocial wasp reveal a greatly reduced <i>DNA</i> methylation system in a social insect. <i>Molecular Ecology</i> , 2016, 25, 1769-1784.	2.0	148
44	Ant Genetics: Reproductive Physiology, Worker Morphology, and Behavior. <i>Annual Review of Neuroscience</i> , 2016, 39, 41-56.	5.0	33
45	Patterns of longevity across a sociality gradient in vespid wasps. <i>Current Opinion in Insect Science</i> , 2016, 16, 28-35.	2.2	26
46	Behavioral Genetic Toolkits. <i>Current Topics in Developmental Biology</i> , 2016, 119, 157-204.	1.0	46
47	Comparative transcriptomics reveals the conserved building blocks involved in parallel evolution of diverse phenotypic traits in ants. <i>Genome Biology</i> , 2016, 17, 43.	3.8	70
48	Candidate genes for individual recognition in <i>Polistes fuscatus</i> paper wasps. <i>Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology</i> , 2016, 202, 115-129.	0.7	10
49	Genomic sources of phenotypic novelty in the evolution of eusociality in insects. <i>Current Opinion in Insect Science</i> , 2016, 13, 24-32.	2.2	30
50	The chemosensory appendage proteome of <i>Amblyomma americanum</i> (Acari: Ixodidae) reveals putative odorant binding and other chemoreception-related proteins. <i>Insect Science</i> , 2017, 24, 730-742.	1.5	42
51	The transcriptional architecture of phenotypic dimorphism. <i>Nature Ecology and Evolution</i> , 2017, 1, 6.	3.4	127
52	Caste-biased gene expression in a facultatively eusocial bee suggests a role for genetic accommodation in the evolution of eusociality. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2017, 284, 20162228.	1.2	41
53	Evolutionary constraints shape caste-specific gene expression across 15 ant species. <i>Evolution; International Journal of Organic Evolution</i> , 2017, 71, 1273-1284.	1.1	11
54	Transcriptomics of an extended phenotype: parasite manipulation of wasp social behaviour shifts expression of caste-related genes. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2017, 284, 20170029.	1.2	27

#	ARTICLE	IF	CITATIONS
55	Explaining Extraordinary Life Spans. , 2017, , 198-219.		2
56	Molecular Evolution of Insect Sociality: An Eco-Evo-Devo Perspective. Annual Review of Entomology, 2017, 62, 419-442.	5.7	92
57	Genomic Signature of Kin Selection in an Ant with Obligately Sterile Workers. Molecular Biology and Evolution, 2017, 34, 1780-1787.	3.5	47
58	Intrinsic worker mortality depends on behavioral caste and the queensâ€™ presence in a social insect. Die Naturwissenschaften, 2017, 104, 34.	0.6	32
59	MicroRNAs Associated with Caste Determination and Differentiation in a Primitively Eusocial Insect. Scientific Reports, 2017, 7, 45674.	1.6	32
60	Social dominance alters nutritionâ€related gene expression immediately: transcriptomic evidence from a monomorphic queenless ant. Molecular Ecology, 2017, 26, 2922-2938.	2.0	35
61	Deconstructing Superorganisms and Societies to Address Big Questions in Biology. Trends in Ecology and Evolution, 2017, 32, 861-872.	4.2	45
63	Transcriptome analysis of terpene chemotypes of <i>Melaleuca alternifolia</i> across different tissues. Plant, Cell and Environment, 2017, 40, 2406-2425.	2.8	34
64	Social Aggression, Experience, and Brain Gene Expression in a Subsocial Bee. Integrative and Comparative Biology, 2017, 57, 640-648.	0.9	24
65	Back to the roots: the importance of using simple insect societies to understand the molecular basis of complex social life. Current Opinion in Insect Science, 2018, 28, 33-39.	2.2	30
66	Comparative analyses of co-evolving host-parasite associations reveal unique gene expression patterns underlying slavemaker raiding and host defensive phenotypes. Scientific Reports, 2018, 8, 1951.	1.6	15
67	Hemimetabolous genomes reveal molecular basis of termite eusociality. Nature Ecology and Evolution, 2018, 2, 557-566.	3.4	223
68	Building a new research framework for social evolution: intralocus caste antagonism. Biological Reviews, 2018, 93, 1251-1268.	4.7	18
70	Functional genomics in the wild: a case study with paper wasps shows challenges and prospects for RNA interference in ecological systems. Genome, 2018, 61, 266-272.	0.9	6
71	A molecular concept of caste in insect societies. Current Opinion in Insect Science, 2018, 25, 42-50.	2.2	19
72	Behavioral and genetic mechanisms of social evolution: insights from incipiently and facultatively social bees. Apidologie, 2018, 49, 13-30.	0.9	46
73	Genetic accommodation and the role of ancestral plasticity in the evolution of insect eusociality. Journal of Experimental Biology, 2018, 221, .	0.8	20
74	Exploring transcription factors reveals crucial members and regulatory networks involved in different abiotic stresses in <i>Brassica napus</i> L.. BMC Plant Biology, 2018, 18, 202.	1.6	53

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75	Conserved Genes Underlie Phenotypic Plasticity in an Incipiently Social Bee. <i>Genome Biology and Evolution</i> , 2018, 10, 2749-2758.	1.1	24
76	Caste-biased genes in a subterranean termite are taxonomically restricted: implications for novel gene recruitment during termite caste evolution. <i>Insectes Sociaux</i> , 2018, 65, 593-599.	0.7	7
77	Social regulation of insulin signaling and the evolution of eusociality in ants. <i>Science</i> , 2018, 361, 398-402.	6.0	125
78	Insects with similar social complexity show convergent patterns of adaptive molecular evolution. <i>Scientific Reports</i> , 2018, 8, 10388.	1.6	20
79	Tensor decomposition-based and principal-component-analysis-based unsupervised feature extraction applied to the gene expression and methylation profiles in the brains of social insects with multiple castes. <i>BMC Bioinformatics</i> , 2018, 19, 99.	1.2	37
80	Phylogenomic Evidence Overturns Current Conceptions of Social Evolution in Wasps (Vespidae). <i>Molecular Biology and Evolution</i> , 2018, 35, 2097-2109.	3.5	108
81	Core transcriptional signatures of phase change in the migratory locust. <i>Protein and Cell</i> , 2019, 10, 883-901.	4.8	28
82	Transcriptomic analyses reveal groups of co-expressed, syntenic lncRNAs in four species of the genus <i>Caenorhabditis</i> . <i>RNA Biology</i> , 2019, 16, 320-329.	1.5	16
83	Convergent eusocial evolution is based on a shared reproductive groundplan plus lineage-specific plastic genes. <i>Nature Communications</i> , 2019, 10, 2651.	5.8	63
84	High indirect fitness benefits for helpers across the nesting cycle in the tropical paper wasp <i>Polistes canadensis</i> . <i>Molecular Ecology</i> , 2019, 28, 3271-3284.	2.0	12
85	Leveraging technological innovations to investigate evolutionary transitions to eusociality. <i>Current Opinion in Insect Science</i> , 2019, 34, 27-32.	2.2	2
86	Inquiline social parasites as tools to unlock the secrets of insect sociality. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2019, 374, 20180193.	1.8	24
87	Social modularity: conserved genes and regulatory elements underlie caste-antecedent behavioural states in an incipiently social bee. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2019, 286, 20191815.	1.2	12
88	The transcriptional correlates of divergent electric organ discharges in <i>Paramormyrops electric</i> fish. <i>BMC Evolutionary Biology</i> , 2020, 20, 6.	3.2	6
89	The Complexity of Social Complexity: A Quantitative Multidimensional Approach for Studies of Social Organization. <i>American Naturalist</i> , 2020, 196, 525-540.	1.0	17
90	Neurotrophin Inhibits Lipid Accumulation by Maintaining Mitochondrial Function in Hepatocytes via AMPK Activation. <i>Frontiers in Physiology</i> , 2020, 11, 950.	1.3	3
91	What Can Mechanisms Underlying Derived Traits Tell Us About the Evolution of Social Behavior?. <i>Annals of the Entomological Society of America</i> , 2021, 114, 547-561.	1.3	10
92	Developmental plasticity shapes social traits and selection in a facultatively eusocial bee. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 13615-13625.	3.3	37

#	ARTICLE	IF	CITATIONS
93	Behavioural and neurogenomic responses of host workers to social parasite invasion in a social insect. <i>Insectes Sociaux</i> , 2020, 67, 295-308.	0.7	6
94	Epigenetic Molecular Mechanisms in Insects. <i>Neotropical Entomology</i> , 2020, 49, 615-642.	0.5	27
95	Adaptations to thermal stress in social insects: recent advances and future directions. <i>Biological Reviews</i> , 2020, 95, 1535-1553.	4.7	46
96	Chromatin accessibility and transcriptome landscapes of <i>Monomorium pharaonis</i> brain. <i>Scientific Data</i> , 2020, 7, 217.	2.4	10
97	Reproductive workers insufficiently signal their reproductive ability in a paper wasp. <i>Behavioral Ecology</i> , 2020, 31, 577-590.	1.0	9
98	Sex biased expression and co-expression networks in development, using the hymenopteran <i>Nasonia vitripennis</i> . <i>PLoS Genetics</i> , 2020, 16, e1008518.	1.5	11
99	Gene expression during larval caste determination and differentiation in intermediately eusocial bumblebees, and a comparative analysis with advanced eusocial honeybees. <i>Molecular Ecology</i> , 2021, 30, 718-735.	2.0	8
100	No obvious transcriptome-wide signature of indirect selection in termites. <i>Journal of Evolutionary Biology</i> , 2021, 34, 403-415.	0.8	4
101	Diminishing returns drive altruists to help extended family. <i>Nature Ecology and Evolution</i> , 2021, 5, 468-479.	3.4	9
102	Novel brain gene-expression patterns are associated with a novel predaceous behaviour in tadpoles. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2021, 288, 20210079.	1.2	5
111	Gene expression is more strongly influenced by age than caste in the ant <i>Lasius niger</i> . <i>Molecular Ecology</i> , 2017, 26, 5058-5073.	2.0	18
112	Transcriptome Sequencing and Positive Selected Genes Analysis of <i>Bombyx mandarina</i> . <i>PLoS ONE</i> , 2015, 10, e0122837.	1.1	25
114	Transcriptome sequencing reveals high isoform diversity in the ant <i>Formica exsecta</i> . <i>PeerJ</i> , 2017, 5, e3998.	0.9	7
122	Causes and Consequences of Reproductive Conflicts in Wasp Societies. , 2021, , 147-178.		1
123	Genomic and transcriptomic analyses of the subterranean termite <i>Reticulitermes speratus</i> : Gene duplication facilitates social evolution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	37
124	Kin selection for cooperation in natural bacterial populations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	15
125	Understanding of superorganisms: collective behavior, differentiation and social organization. <i>Artificial Life and Robotics</i> , 2022, 27, 204-212.	0.7	4
126	Social divergence: molecular pathways underlying castes and longevity in a facultatively eusocial small carpenter bee. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2022, 289, 20212663.	1.2	2

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128	Highly contiguous genome assemblies of the Guinea paper wasp ( <i>Polistes exclamans</i> ) and <i>Mischocyttarus mexicanus</i> . <i>Genome Biology and Evolution</i> , 0, , .	1.1	4
130	Self-organization of plasticity and specialization in a primitively social insect. <i>Cell Systems</i> , 2022, 13, 768-779.e4.	2.9	4
132	Co-expression Gene Networks and Machine-learning Algorithms Unveil a Core Genetic Toolkit for Reproductive Division of Labour in Rudimentary Insect Societies. <i>Genome Biology and Evolution</i> , 2023, 15, .	1.1	4
133	Molecular patterns and processes in evolving sociality: lessons from insects. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2023, 378, .	1.8	3
134	Social complexity, life-history and lineage influence the molecular basis of castes in vespid wasps. <i>Nature Communications</i> , 2023, 14, .	5.8	6
135	Convergent and complementary selection shaped gains and losses of eusociality in sweat bees. <i>Nature Ecology and Evolution</i> , 2023, 7, 557-569.	3.4	9