Thomas C G Bosch

List of Publications by Year
in descending order

164 papers	12,818 citations	29994 54 h-index	28224 105 g-index
186 all docs	186 docs citations	186 times ranked	10749 citing authors

#	Article	IF	Citations
1	Animals in a bacterial world, a new imperative for the life sciences. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3229-3236.	3.3	2,181
2	The dynamic genome of Hydra. Nature, 2010, 464, 592-596.	13.7	743
3	More than just orphans: are taxonomically-restricted genes important in evolution?. Trends in Genetics, 2009, 25, 404-413.	2.9	399
4	Getting the Hologenome Concept Right: an Eco-Evolutionary Framework for Hosts and Their Microbiomes. MSystems, 2016, 1, .	1.7	388
5	Metaorganisms as the new frontier. Zoology, 2011, 114, 185-190.	0.6	346
6	The innate immune repertoire in Cnidaria - ancestral complexity and stochastic gene loss. Genome Biology, 2007, 8, R59.	13.9	322
7	Long-term maintenance of species-specific bacterial microbiota in the basal metazoan <i>Hydra</i>. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 13146-13151.	3.3	320
8	Distinct antimicrobial peptide expression determines host species-specific bacterial associations. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3730-8.	3.3	312
9	Transgenic Hydra allow in vivo tracking of individual stem cells during morphogenesis. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 6208-6211.	3.3	288
10	Eco-Evo-Devo: developmental symbiosis and developmental plasticity as evolutionary agents. Nature Reviews Genetics, 2015, 16, 611-622.	7.7	281
11	Why bacteria matter in animal development and evolution. BioEssays, 2010, 32, 571-580.	1.2	257
12	Bacteriaâ€“bacteria interactions within the microbiota of the ancestral metazoan Hydra contribute to fungal resistance. ISME Journal, 2015, 9, 1543-1556.	4.4	196
13	Uncovering the evolutionary history of innate immunity: The simple metazoan Hydra uses epithelial cells for host defence. Developmental and Comparative Immunology, 2009, 33, 559-569.	1.0	195
14	Metaorganisms in extreme environments: do microbes play a role in organismal adaptation?. Zoology, 2018, 127, 1-19.	0.6	194
15	Why polyps regenerate and we don't: Towards a cellular and molecular framework for Hydra regeneration. Developmental Biology, 2007, 303, 421-433.	0.9	174
16	FoxO is a critical regulator of stem cell maintenance in immortal <i>Hydra</i>. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19697-19702.	3.3	161
17	MyD88-deficient <i>Hydra</i> reveal an ancient function of TLR signaling in sensing bacterial colonizers. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19374-19379.	3.3	154
18	Regulation of Polyp-to-Jellyfish Transition in Aurelia aurita. Current Biology, 2014, 24, 263-273.	1.8	152

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19	Stem cells of Hydra magnipapillata can differentiate into somatic cells and germ line cells. Developmental Biology, 1987, 121, 182-191.	0.9	148
20	In an early branching metazoan, bacterial colonization of the embryo is controlled by maternal antimicrobial peptides. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 18067-18072.	3.3	143
21	Comparative analysis of amplicon and metagenomic sequencing methods reveals key features in the evolution of animal metaorganisms. Microbiome, 2019, 7, 133.	4.9	141
22	Molecular Signatures of the Three Stem Cell Lineages in Hydra and the Emergence of Stem Cell Function at the Base of Multicellularity. Molecular Biology and Evolution, 2012, 29, 3267-3280.	3.5	140
23	Cnidarian-Microbe Interactions and the Origin of Innate Immunity in Metazoans. Annual Review of Microbiology, 2013, 67, 499-518.	2.9	138
24	Growth regulation in Hydra: Relationship between epithelial cell cycle length and growth rate. Developmental Biology, 1984, 104, 161-171.	0.9	137
25	Hydra and the evolution of stem cells. BioEssays, 2009, 31, 478-486.	1.2	128
26	Defining the Origins of the NOD-Like Receptor System at the Base of Animal Evolution. Molecular Biology and Evolution, 2011, 28, 1687-1702.	3.5	119
27	Transgenic stem cells in Hydra reveal an early evolutionary origin for key elements controlling self-renewal and differentiation. Developmental Biology, 2007, 309, 32-44.	0.9	113
28	Naturally occurring tumours in the basal metazoan Hydra. Nature Communications, 2014, 5, 4222.	5.8	109
29	The Hydra polyp: Nothing but an active stem cell community. Development Growth and Differentiation, 2010, 52, 15-25.	0.6	108
30	Hydramacin-1, Structure and Antibacterial Activity of a Protein from the Basal Metazoan Hydra. Journal of Biological Chemistry, 2009, 284, 1896-1905.	1.6	107
31	Compagen, a comparative genomics platform for early branching metazoan animals, reveals early origins of genes regulating stemâ€cell differentiation. BioEssays, 2008, 30, 1010-1018.	1.2	104
32	Back to the Basics: Cnidarians Start to Fire. Trends in Neurosciences, 2017, 40, 92-105.	4.2	102
33	A secreted antibacterial neuropeptide shapes the microbiome of Hydra. Nature Communications, 2017, 8, 698.	5.8	101
34	The hygiene hypothesis, the COVID pandemic, and consequences for the human microbiome. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	100
35	Bacterial colonization of <i>Hydra</i> hatchlings follows a robust temporal pattern. ISME Journal, 2013, 7, 781-790.	4.4	96
36	The evolution of immunity: a low-life perspective. Trends in Immunology, 2007, 28, 449-454.	2.9	89

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37	Identification of a kazal-type serine protease inhibitor with potent anti-staphylococcal activity as part of Hydra's innate immune system. Developmental and Comparative Immunology, 2009, 33, 830-837.	1.0	86
38	A Novel Gene Family Controls Species-Specific Morphological Traits in Hydra. PLoS Biology, 2008, 6, e278.	2.6	85
39	Rethinking the role of immunity: lessons from Hydra. Trends in Immunology, 2014, 35, 495-502.	2.9	83
40	Î²-catenin plays a central role in setting up the head organizer in hydra. Developmental Biology, 2010, 340, 116-124.	0.9	82
41	How the microbiome challenges our concept of self. PLoS Biology, 2018, 16, e2005358.	2.6	81
42	Dickkopf related genes are components of the positional value gradient in Hydra. Developmental Biology, 2006, 296, 62-70.	0.9	75
43	Molecular phylogenetics in Hydra, a classical model in evolutionary developmental biology. Molecular Phylogenetics and Evolution, 2007, 44, 281-290.	1.2	74
44	Spontaneous body contractions are modulated by the microbiome of Hydra. Scientific Reports, 2017, 7, 15937.	1.6	74
45	Evolution and Function of Innate Immune Receptors â€“ Insights from Marine Invertebrates. Journal of Innate Immunity, 2009, 1, 291-300.	1.8	69
46	Host modification of a bacterial quorum-sensing signal induces a phenotypic switch in bacterial symbionts. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E8488-E8497.	3.3	69
47	Polyps, peptides and patterning. BioEssays, 2001, 23, 420-427.	1.2	68
48	Symbiotic Hydra express a plant-like peroxidase gene during oogenesis. Journal of Experimental Biology, 2005, 208, 2157-2165.	0.8	68
49	Cell type complexity in the basal metazoan Hydra is maintained by both stem cell based mechanisms and transdifferentiation. Developmental Biology, 2008, 313, 13-24.	0.9	67
50	Disturbing epithelial homeostasis in the metazoan <i>Hydra</i> leads to drastic changes in associated microbiota. Environmental Microbiology, 2009, 11, 2361-2369.	1.8	64
51	How Hydra senses and destroys microbes. Seminars in Immunology, 2010, 22, 54-58.	2.7	62
52	Neutrality in the Metaorganism. PLoS Biology, 2019, 17, e3000298.	2.6	61
53	The Hydra viridis / Chlorella symbiosis. Growth and sexual differentiation in polyps without symbionts. Zoology, 2003, 106, 101-108.	0.6	59
54	Characterization of taxonomically restricted genes in a phylum-restricted cell type. Genome Biology, 2009, 10, R8.	13.9	59

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55	Activity of the Novel Peptide Arminin against Multiresistant Human Pathogens Shows the Considerable Potential of Phylogenetically Ancient Organisms as Drug Sources. Antimicrobial Agents and Chemotherapy, 2009, 53, 5245-5250.	1.4	58
56	Exploring the human hair follicle microbiome*. British Journal of Dermatology, 2021, 184, 802-815.	1.4	58
57	The novel peptide HEADY specifies apical fate in a simple radially symmetric metazoan. Genes and Development, 2000, 14, 2771-2777.	2.7	54
58	A Dickkopf - 3 -related gene is expressed in differentiating nematocytes in the basal metazoan Hydra. Development Genes and Evolution, 2004, 214, 72-80.	0.4	53
59	Species-Specific Viromes in the Ancestral Holobiont Hydra. PLoS ONE, 2014, 9, e109952.	1.1	53
60	The Origin of Mucosal Immunity: Lessons from the Holobiont <i>Hydra</i>. MBio, 2016, 7, .	1.8	53
61	Resolving structure and function of metaorganisms through a holistic framework combining reductionist and integrative approaches. Zoology, 2019, 133, 81-87.	0.6	53
62	Cloning and expression of a heat-inducible hsp70 gene in two species of Hydra which differ in their stress response. FEBS Journal, 1992, 210, 683-691.	0.2	52
63	Which games are growing bacterial populations playing?. Journal of the Royal Society Interface, 2015, 12, 20150121.	1.5	51
64	Revisiting the age, evolutionary history and species level diversity of the genus Hydra (Cnidaria:) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 38	1.2	50
65	Transitioning from Microbiome Composition to Microbial Community Interactions: The Potential of the Metaorganism Hydra as an Experimental Model. Frontiers in Microbiology, 2016, 7, 1610.	1.5	49
66	Discovery of genes expressed in Hydra embryogenesis. Developmental Biology, 2006, 289, 466-481.	0.9	48
67	Rethinking the Role of the Nervous System: Lessons From the <i>Hydra</i> Holobiont. BioEssays, 2018, 40, e1800060.	1.2	48
68	Prototypical pacemaker neurons interact with the resident microbiota. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 17854-17863.	3.3	47
69	The Holobiont Imperative. , 2016, , .		47
70	Metabolic co-dependence drives the evolutionarily ancient Hydraâ€"Chlorella symbiosis. ELife, 2018, 7, .	2.8	47
71	<i>Hydra</i> meiosis reveals unexpected conservation of structural synaptonemal complex proteins across metazoans. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 16588-16593.	3.3	45
72	Genome sizes and chromosomes in the basal metazoan Hydra. Zoology, 2004, 107, 219-227.	0.6	42

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73	Cnidarian Immunity: A Tale of Two Barriers. Advances in Experimental Medicine and Biology, 2010, 708, 1-16.	0.8	41
74	Temperate phages as self-replicating weapons in bacterial competition. Journal of the Royal Society Interface, 2017, 14, 20170563.	1.5	39
75	Carrying Capacity and Colonization Dynamics of Curvibacter in the Hydra Host Habitat. Frontiers in Microbiology, 2018, 9, 443.	1.5	39
76	Understanding complex host-microbe interactions in<i>Hydra</i>. Gut Microbes, 2012, 3, 345-351.	4.3	38
77	How do environmental factors influence life cycles and development? An experimental framework for earlyâ€diverging metazoans. BioEssays, 2014, 36, 1185-1194.	1.2	38
78	Stem cells and aging from a quasiâ€immortal point of view. BioEssays, 2013, 35, 994-1003.	1.2	35
79	Bdellovibrio and Like Organisms Are Predictors of Microbiome Diversity in Distinct Host Groups. Microbial Ecology, 2020, 79, 252-257.	1.4	35
80	Evolutionary â€œExperimentsâ€in Symbiosis: The Study of Model Animals Provides Insights into the Mechanisms Underlying the Diversity of Hostâ€“Microbe Interactions. BioEssays, 2019, 41, e1800256.	1.2	34
81	Epigenetic Regulation of Depot-Specific Gene Expression in Adipose Tissue. PLoS ONE, 2013, 8, e82516.	1.1	33
82	Competing forces maintain the <i>Hydra</i> metaorganism. Immunological Reviews, 2017, 279, 123-136.	2.8	33
83	The Microbiome Mediates Environmental Effects on Aging. BioEssays, 2019, 41, e1800257.	1.2	33
84	Expression of developmental genes during early embryogenesis of Hydra. Development Genes and Evolution, 2003, 213, 445-455.	0.4	32
85	Transgenesis in Hydra to characterize gene function and visualize cell behavior. Nature Protocols, 2019, 14, 2069-2090.	5.5	32
86	Patterning and cell differentiation inHydra: novel genes and the limits to conservation. Canadian Journal of Zoology, 2002, 80, 1670-1677.	0.4	31
87	What Hydra Has to Say About the Role and Origin of Symbiotic Interactions. Biological Bulletin, 2012, 223, 78-84.	0.7	30
88	Antimicrobial Peptidesâ€”or How Our Ancestors Learned to Control the Microbiome. MBio, 2021, 12, e0184721.	1.8	29
89	Dynamic interactions within the host-associated microbiota cause tumor formation in the basal metazoan Hydra. PLoS Pathogens, 2020, 16, e1008375.	2.1	28
90	Allorecognition in urochordates: Identification of a highly variable complement receptor-like protein expressed in follicle cells of Ciona. Developmental and Comparative Immunology, 2007, 31, 360-371.	1.0	27

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91	Temperature and insulin signaling regulate body size in Hydra by the Wnt and TGF-beta pathways. Nature Communications, 2019, 10, 3257.	5.8	27
92	Selective protein kinase inhibitors block head-specific differentiation in hydra. Cellular Signalling, 2000, 12, 649-658.	1.7	26
93	Plasticity of epithelial cell shape in response to upstream signals: A whole-organism study using transgenic Hydra. Zoology, 2009, 112, 185-194.	0.6	26
94	Eco-Aging: stem cells and microbes are controlled by aging antagonist FoxO. Current Opinion in Microbiology, 2017, 38, 181-187.	2.3	26
95	Grow With the Challenge â€“ Microbial Effects on Epithelial Proliferation, Carcinogenesis, and Cancer Therapy. Frontiers in Microbiology, 2018, 9, 2020.	1.5	26
96	In the urochordate Ciona intestinalis zona pellucida domain proteins vary among individuals. Developmental and Comparative Immunology, 2007, 31, 1242-1254.	1.0	25
97	Transplantation stimulates interstitial cell migration in hydra. Developmental Biology, 1990, 138, 509-512.	0.9	24
98	Acute toxic effects of zinc oxide nanoparticles on Hydra magnipapillata. Aquatic Toxicology, 2018, 205, 130-139.	1.9	24
99	Stem Cell Transcription Factor FoxO Controls Microbiome Resilience in Hydra. Frontiers in Microbiology, 2018, 9, 629.	1.5	24
100	Animal development in the microbial world: Re-thinking the conceptual framework. Current Topics in Developmental Biology, 2021, 141, 399-427.	1.0	24
101	Ancient signals: peptides and the interpretation of positional information in ancestral metazoans. Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2003, 136, 185-196.	0.7	23
102	Enhanced antibacterial activity in Hydra polyps lacking nerve cells. Developmental and Comparative Immunology, 2003, 27, 79-85.	1.0	22
103	Where Simplicity Meets Complexity: Hydra, a Model for Hostâ€“Microbe Interactions. Advances in Experimental Medicine and Biology, 2012, 710, 71-81.	0.8	22
104	Epithelial interactions in<i>Hydra</i>: apoptosis in interspecies grafts is induced by detachment from the extracellular matrix. Journal of Experimental Biology, 2002, 205, 3809-3817.	0.8	22
105	Symbiont transmission in marine sponges: reproduction, development, and metamorphosis. BMC Biology, 2022, 20, 100.	1.7	22
106	Migration of multipotent interstitial stem cells in Hydra. Zoology, 2012, 115, 275-282.	0.6	21
107	Non-senescent Hydra tolerates severe disturbances in the nuclear lamina. Aging, 2018, 10, 951-972.	1.4	21
108	Role of the cellular environment in interstitial stem cell proliferation in Hydra. Roux's Archives of Developmental Biology, 1991, 200, 269-276.	1.2	20

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109	Microbial ecology in Hydra: Why viruses matter. Journal of Microbiology, 2015, 53, 193-200.	1.3	20
110	Microbial Species Coexistence Depends on the Host Environment. MBio, 2020, 11, .	1.8	20
111	Embryo protection in contemporary immunology. Communicative and Integrative Biology, 2011, 4, 369-372.	0.6	19
112	Phylogenomics Reveals an Anomalous Distribution of USP Genes in Metazoans. Molecular Biology and Evolution, 2011, 28, 153-161.	3.5	19
113	Exposure of the Host-Associated Microbiome to Nutrient-Rich Conditions May Lead to Dysbiosis and Disease Developmentâ€"an Evolutionary Perspective. MBio, 2019, 10, .	1.8	19
114	Epithelial interactions in Hydra: apoptosis in interspecies grafts is induced by detachment from the extracellular matrix. Journal of Experimental Biology, 2002, 205, 3809-17.	0.8	18
115	Bacteria- and temperature-regulated peptides modulate Î²-catenin signaling in <i>Hydra</i>. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 21459-21468.	3.3	17
116	Foot differentiation and genomic plasticity in Hydra: lessons from the PPOD gene family. Development Genes and Evolution, 2006, 216, 57-68.	0.4	16
117	Further characterization of the PW peptide family that inhibits neuron differentiation in Hydra. Development Genes and Evolution, 2009, 219, 119-129.	0.4	16
118	Evolution of human longevity: lessons from Hydra. Aging, 2012, 4, 730-731.	1.4	16
119	Symmetry Breaking in Stem Cells of the Basal Metazoan Hydra. Progress in Molecular and Subcellular Biology, 2007, 45, 61-78.	0.9	15
120	Cloned interstitial stem cells grow as contiguous patches in hydra. Developmental Biology, 1990, 138, 513-515.	0.9	14
121	Multidisciplinary Approaches to Exploring Humanâ€"Microbiome Interactions. BioEssays, 2019, 41, 1-2.	1.2	14
122	Control of asymmetric cell divisions: will cnidarians provide an answer?. BioEssays, 2004, 26, 929-931.	1.2	13
123	Symbiosis: the other cells in development. Development (Cambridge), 2022, 149, .	1.2	13
124	Self/nonself recognition in Cnidaria: contact to allogeneic tissue does not result in elimination of nonself cells in Hydra vulgaris. Zoology, 2003, 106, 109-116.	0.6	12
125	Exploring Host-Microbe Interactions in Hydra. Microbe Magazine, 2009, 4, 457-462.	0.4	10
126	The Role of DNA Methylation in Genome Defense in Cnidaria and Other Invertebrates. Molecular Biology and Evolution, 2022, 39, .	3.5	10

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127	AmAMP1 from Acropora millepora and damicornin define a family of coral-specific antimicrobial peptides related to the Shk toxins of sea anemones. Developmental and Comparative Immunology, 2021, 114, 103866.	1.0	9
128	Animal development in the microbial world: The power of experimental model systems. Current Topics in Developmental Biology, 2021, 141, 371-397.	1.0	9
129	Embryo protection in contemporary immunology: Why bacteria matter. Communicative and Integrative Biology, 2011, 4, 369-72.	0.6	7
130	Exploring the Niche Concept in a Simple Metaorganism. Frontiers in Microbiology, 2020, 11, 1942.	1.5	6
131	Neurons interact with the microbiome: an evolutionary-informed perspective. Neuroforum, 2021, .	0.2	5
132	Symbiotic Algae of Hydra viridissima Play a Key Role in Maintaining Homeostatic Bacterial Colonization. Frontiers in Microbiology, 0, 13, .	1.5	5
133	Macrophages Are Polarized toward an Inflammatory Phenotype by their Aged Microenvironment in the Human Skin. Journal of Investigative Dermatology, 2022, 142, 3136-3145.e11.	0.3	5
134	The microbiome and the human: A reply to Parke and colleagues. PLoS Biology, 2018, 16, e2006974.	2.6	4
135	Boundary maintenance in the ancestral metazoan Hydra depends on histone acetylation. Developmental Biology, 2020, 458, 200-214.	0.9	4
136	<i>Hydra</i> and the hair follicle â€“ An unconventional comparative biology approach to exploring the human holobiont. BioEssays, 2022, 44, e2100233.	1.2	4
137	Hydraâ€™s Lasting Partnership with Microbes: The Key for Escaping Senescence?. Microorganisms, 2022, 10, 774.	1.6	4
138	Squid genomes in a bacterial world. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2799-2801.	3.3	3
139	The Hydra Holobiont: A Tale of Several Symbiotic Lineages. , 2016, , 79-97.		3
140	Symbiotic interactions in the holobiont Hydra. , 2020, , 65-77.		3
141	Stammzellen in <i>Hydra</i>. EvolutionÃres VermÃchtnis. Biologie in Unserer Zeit, 2009, 39, 114-122.	0.3	2
142	Emergence of Immune System Components in Cnidarians. , 2016, , 397-406.		2
143	Hydra as Model to Determine the Role of FOXO in Longevity. Methods in Molecular Biology, 2019, 1890, 231-238.	0.4	2
144	The model zoologist: how should we think about animals, model animals, and non-model model animals?. Zoology, 2020, 138, 125749.	0.6	2

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145	Introduction: The Holobiont Imperative. , 2016, , 1-10.		2
146	Major Events in the Evolution of Planet Earth: Some Origin Stories. , 2016, , 11-26.		2
147	Beyond Lynn Margulisâ€™ green hydra. Symbiosis, 2022, 87, 11-17.	1.2	2
148	Bakterien â€“ eher Partner als Feinde. Biologie in Unserer Zeit, 2012, 42, 302-309.	0.3	1
149	Rethinking the origin of multicellularity: Where do epithelia come from? (Comment on DOI) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf	1.2	1
150	Taking a microscale look at symbiotic interactionsâ€”and why it matters. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2110874118.	3.3	1
151	Making the invisible visible: exploring hostâ€“microbiome interactions across different taxa using data-driven 3D visualization. Biochemist, 2021, 43, 40-45.	0.2	1
152	Negotiations Between Early Evolving Animals and Symbionts. , 2016, , 57-65.		1
153	Corals. , 2016, , 99-111.		1
154	Cellular dialogues between hosts and microbial symbionts. , 2020, , 287-290.		1
155	FRT - FONDATION RENE TOURAINE. Experimental Dermatology, 2016, 25, 917-932.	1.4	0
156	Tracing the Evolutionary Origin of the Gutâ€“Brain Axis. , 2018, , 61-80.		0
157	The isolated zoologist. Zoology, 2020, 143, 125857.	0.6	0
158	Beating in on a stable partnership. Nature Reviews Microbiology, 2021, 19, 619-620.	13.6	0
159	Is â€œzoologyâ€•dead?. Zoology, 2021, 149, 125971.	0.6	0
160	Role of Symbionts in Evolutionary Processes. , 2016, , 67-77.		0
161	Seeking a Holistic View of Early Emerging Metazoans: The Power of Modularity. , 2016, , 135-138.		0
162	The Hidden Impact of Viruses. , 2016, , 127-133.		0

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163	Phylosymbiosis: Novel Genomic Approaches Discover the Holobiont. , 2016, , 47-55.		0
164	Stem Cells in a Holobiont. , 2019, , 267-279.		0