Nicholas D Holland

List of Publications by Year
in descending order

121 papers	5,223 citations	61977 43 h-index	98792 67 g-index
123 all docs	123 docs citations	123 times ranked	2509 citing authors

#	Article	IF	Citations
1	Axial patterning in cephalochordates and the evolution of the organizer. Nature, 2007, 445, 613-617.	27.8	242
2	Early central nervous system evolution: an era of skin brains?. Nature Reviews Neuroscience, 2003, 4, 617-627.	10.2	228
3	Evolution of Genetic Networks Underlying the Emergence of Thymopoiesis in Vertebrates. Cell, 2009, 138, 186-197.	28.9	168
4	Paxâ€“Sixâ€“Eyaâ€“Dach network during amphioxus development: Conservation in vitro but context specificity in vivo. Developmental Biology, 2007, 306, 143-159.	2.0	158
5	Origin and early evolution of the vertebrates: New insights from advances in molecular biology, anatomy, and palaeontology. BioEssays, 2001, 23, 142-151.	2.5	154
6	Three Amphioxus Wnt Genes (AmphiWnt3, AmphiWnt5, and AmphiWnt6) Associated with the Tail Bud: the Evolution of Somitogenesis in Chordates. Developmental Biology, 2001, 240, 262-273.	2.0	139
7	Evolution of neural crest and placodes: amphioxus as a model for the ancestral vertebrate?. Journal of Anatomy, 2001, 199, 85-98.	1.5	127
8	The Fine Structure of the Echinoderm Cuticle and the Subcuticular Bacteria of Echinoderms. Acta Zoologica, 1978, 59, 169-185.	0.8	124
9	AmphiPax3/7, an amphioxus paired box gene: insights into chordate myogenesis, neurogenesis, and the possible evolutionary precursor of definitive vertebrate neural crest. Evolution & Development, 1999, 1, 153-165.	2.0	118
10	A retinoic acid-Hox hierarchy controls both anterior/posterior patterning and neuronal specification in the developing central nervous system of the cephalochordate amphioxus. Developmental Biology, 2006, 296, 190-202.	2.0	116
11	Chordate origins of the vertebrate central nervous system. Current Opinion in Neurobiology, 1999, 9, 596-602.	4.2	114
12	The retinoic acid signaling pathway regulates anterior/posterior patterning in the nerve cord and pharynx of amphioxus, a chordate lacking neural crest. Development (Cambridge), 2002, 129, 2905-2916.	2.5	110
13	Insights into spawning behavior and development of the european amphioxus (Branchiostoma) Tj ETQq1 1 0.784314 rgBT /Overlock 10 308B, 484-493.	1.3	103
14	A Gbx homeobox gene in amphioxus: Insights into ancestry of the ANTP class and evolution of the midbrain/hindbrain boundary. Developmental Biology, 2006, 295, 40-51.	2.0	98
15	Retinoic acid signaling acts via Hox1 to establish the posterior limit of the pharynx in the chordate amphioxus. Development (Cambridge), 2005, 132, 61-73.	2.5	96
16	Embryos and Larvae of a Lancelet, Branchiostoma floridae, from Hatching through Metamorphosis: Growth in the Laboratory and External Morphology. Acta Zoologica, 1995, 76, 105-120.	0.8	94
17	Sequence and developmental expression of amphioxus AmphiNk2-1 : insights into the evolutionary origin of the vertebrate thyroid gland and forebrain. Development Genes and Evolution, 1999, 209, 254-259.	0.9	85
18	An amphioxus nodal gene (AmphiNodal) with early symmetrical expression in the organizer and mesoderm and later asymmetrical expression associated with left-right axis formation. Evolution & Development, 2002, 4, 418-425.	2.0	83

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19	An amphioxus winged helix/forkhead gene,AmphiFoxD: Insights into vertebrate neural crest evolution. Developmental Dynamics, 2002, 225, 289-297.	1.8	82
20	AmphiBMP2/4, an amphioxus bone morphogenetic protein closely related toDrosophila decapentaplegic and vertebrate BMP2 and BMP4: Insights into evolution of dorsoventral axis specification. Developmental Dynamics, 1998, 213, 130-139.	1.8	76
21	Retinoic acid influences anteroposterior positioning of epidermal sensory neurons and their gene expression in a developing chordate (amphioxus). Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 10320-10325.	7.1	75
22	â€˜Lophenteropneustâ€™ hypothesis refuted by collection and photos of new deep-sea hemichordates. Nature, 2005, 434, 374-376.	27.8	74
23	Amphink2-tin, an amphioxus homeobox gene expressed in myocardial progenitors: insights into evolution of the vertebrate heart. Developmental Biology, 2003, 255, 128-137.	2.0	73
24	Retinoic acid and Wnt/Î²-catenin have complementary roles in anterior/posterior patterning embryos of the basal chordate amphioxus. Developmental Biology, 2009, 332, 223-233.	2.0	70
25	Amphioxus molecular biology: insights into vertebrate evolution and developmental mechanisms. Canadian Journal of Zoology, 2005, 83, 90-100.	1.0	67
26	Characterization of amphioxus AmphiWnt8 : insights into the evolution of patterning of the embryonic dorsoventral axis. Evolution & Development, 2000, 2, 85-92.	2.0	62
27	Expression of estrogenâ€receptor related receptors in amphioxus and zebrafish: implications for the evolution of posterior brain segmentation at the invertebrateâ€toâ€vertebrate transition. Evolution & Development, 2005, 7, 223-233.	2.0	59
28	Expression ofAmphiCoe, an amphioxus COE/EBF gene, in the developing central nervous system and epidermal sensory neurons. Genesis, 2004, 38, 58-65.	1.6	57
29	Diversification of acorn worms (Hemichordata, Enteropneusta) revealed in the deep sea. Proceedings of the Royal Society B: Biological Sciences, 2012, 279, 1646-1654.	2.6	54
30	Serotoninâ€containing Cells in the Nervous System and Other Tissues During Ontogeny of a Lancelet, Branchiostoma floridae. Acta Zoologica, 1993, 74, 195-204.	0.8	53
31	Retinoic acid signaling targets Hox genes during the amphioxus gastrula stage: Insights into early anteriorâ€“posterior patterning of the chordate body plan. Developmental Biology, 2010, 338, 98-106.	2.0	53
32	Characterization and Developmental Expression of the Amphioxus Homolog of Notch (AmphiNotch): Evolutionary Conservation of Multiple Expression Domains in Amphioxus and Vertebrates. Developmental Biology, 2001, 232, 493-507.	2.0	52
33	Scenarios for the making of vertebrates. Nature, 2015, 520, 450-455.	27.8	51
34	Fine Structural Study of the Cortical Reaction and Formation of the Egg Coats in a Lancelet (=) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 14 Biological Bulletin, 1989, 176, 111-122.	1.8	49
35	Nuclear Î²-catenin promotes non-neural ectoderm and posterior cell fates in amphioxus embryos. Developmental Dynamics, 2005, 233, 1430-1443.	1.8	49
36	Topographic changes in nascent and early mesoderm in amphioxus embryos studied by DiI labeling and by in situ hybridization for a Brachyury gene. Development Genes and Evolution, 1997, 206, 532-535.	0.9	48

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37	Engrailed Expression during Development of a Lamprey, Lampetra japonica: A Possible Clue to Homologies between Agnathan and Gnathostome Muscles of the Mandibular Arch. (lamprey/engrailed/mandibular arch/myogenesis/homology). Development Growth and Differentiation, 1993, 35, 153-160.	1.5	47
38	Epidermal receptor development and sensory pathways in vitally stained amphioxus (Branchiostoma) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	0.8	47
39	The origin and migration of the earliestâ€developing sensory neurons in the peripheral nervous system of amphioxus. Evolution & Development, 2009, 11, 142-151.	2.0	46
40	The Lancelet. American Scientist, 1998, 86, 552.	0.1	46
41	Fine structure of the cirri and a possible mechanism for their motility in stalkless crinoids (Echinodermata). Cell and Tissue Research, 1981, 214, 207-17.	2.9	45
42	Amphioxus and the Utility of Molecular Genetic Data for Hypothesizing Body Part Homologies between Distantly Related Animals. American Zoologist, 1999, 39, 630-640.	0.7	45
43	AmphiFoxE4, an amphioxus winged helix/forkhead gene encoding a protein closely related to vertebrate thyroid transcription factor-2: expression during pharyngeal development. Evolution & Development, 2002, 4, 9-15.	2.0	45
44	Haemal and coelomic circulatory systems in the arms and pinnules ofFlorometra serratissima (Echinodermata: Crinoidea). Zoomorphologie, 1979, 94, 93-109.	0.8	44
45	Developmental Gene Expression in Amphioxus: New Insights into the Evolutionary Origin of Vertebrate Brain Regions, Neural Crest, and Rostrocaudal Segmentation. American Zoologist, 1998, 38, 647-658.	0.7	44
46	AmphioxusAmphiDelta: evolution of delta protein structure, segmentation, and neurogenesis. Genesis, 2007, 45, 113-122.	1.6	43
47	Amphioxus and the evolution of head segmentation. Integrative and Comparative Biology, 2008, 48, 630-646.	2.0	43
48	Evolution of the notochord. EvoDevo, 2015, 6, 30.	3.2	42
49	AN AUTORADIOGRAPHIC INVESTIGATION OF COELOMOCYTE PRODUCTION IN THE PURPLE SEA URCHIN (STRONGYLOCENTROUS PURPURATUS). Biological Bulletin, 1965, 128, 259-270.	1.8	41
50	Enteropneust production of spiral fecal trails on the deep-sea floor observed with time-lapse photography. Deep-Sea Research Part I: Oceanographic Research Papers, 2005, 52, 1228-1240.	1.4	40
51	Characterization of amphioxusamphivent, an evolutionarily conserved marker for chordate ventral mesoderm. Genesis, 2001, 29, 172-179.	1.6	39
52	Characterization of an amphioxusWnt gene,AmphiWnt11, with possible roles in myogenesis and tail outgrowth. Genesis, 2000, 27, 1-5.	1.6	38
53	An autoradiographic investigation of tooth renewal in the purple sea urchin (Strongylocentrotus) Tj ETQq1 1 0.784314 rgBT /Overlock	1.4	36
54	Differential mesodermal expression of two amphioxus MyoD family members (AmphiMRF1 and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 62	0.8	36

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55	A revised fate map for amphioxus and the evolution of axial patterning in chordates. Integrative and Comparative Biology, 2007, 47, 360-372.	2.0	36
56	Electron Microscopic Study of Development in a Sea Cucumber,Stichopus tremulus(Holothuroidea), from Unfertilized Egg through Hatched Blastula. Acta Zoologica, 1981, 62, 89-111.	0.8	35
57	Stage- and tissue-specific patterns of cell division in embryonic and larval tissues of amphioxus during normal development. Evolution & Development, 2006, 8, 142-149.	2.0	35
58	Laboratory Spawning and Development of the Bahama Lancelet, Asymmetron lucayanum (Cephalochordata): Fertilization Through Feeding Larvae. Biological Bulletin, 2010, 219, 132-141.	1.8	35
59	Characterization of two amphioxusWnt genes (AmphiWnt4 andAmphiWnt7b) with early expression in the developing central nervous system. , 2000, 217, 205-215.		34
60	Reproduction of the Florida Lancelet (Branchiostoma floridae): Spawning Patterns and Fluctuations in Gonad Indexes and Nutritional Reserves. Invertebrate Biology, 1996, 115, 349.	0.9	33
61	The Structure of a Sessile, Stalkless Crinoid (Holopus rangii). Acta Zoologica, 1990, 71, 61-67.	0.8	30
62	An amphioxus LIM-homeobox gene, AmphiLim1/5, expressed early in the invaginating organizer region and later in differentiating cells of the kidney and central nervous system. International Journal of Biological Sciences, 2006, 2, 110-116.	6.4	30
63	Development of somites and their derivatives in amphioxus, and implications for the evolution of vertebrate somites. EvoDevo, 2015, 6, 21.	3.2	30
64	The fine structure of the fertilization membrane of the feather star Comanthus japonica (echinodermata : crinoidea). Tissue and Cell, 1973, 5, 209-214.	2.2	29
65	Observations on torquaratorid acorn worms (<scp>H</scp>emichordata, <scp>E</scp>nteropneusta) from the <scp>N</scp>orth <scp>A</scp>tlantic with descriptions of a new genus and three new species. Invertebrate Biology, 2012, 131, 244-257.	0.9	29
66	Differential gene expression and intracellular mRNA localization of amphioxus actin isoforms throughout development: Implications for conserved mechanisms of chordate development. Development Genes and Evolution, 1997, 207, 203-215.	0.9	28
67	The Fine Structure of the Stalk of the Pentacrinoid Larva of a Feather Star, Comanthus japonica (Echinodermata: Crinoidea). Acta Zoologica, 1984, 65, 41-58.	0.8	27
68	A COMPARATIVE STUDY OF GUT MUCOUS CELLS IN THIRTY-SEVEN SPECIES OF THE CLASS ECHINOIDEA (ECHINODERMATA). Biological Bulletin, 1970, 138, 286-305.	1.8	26
69	A new deep-sea species of epibenthic acorn worm (Hemichordata, Enteropneusta). Zoosystema, 2009, 31, 333-346.	0.6	25
70	AN AUTORADIOGRAPHIC AND HISTOCHEMICAL INVESTIGATION OF THE GUT MUCOPOLYSACCHARIDES OF THE PURPLE SEA URCHIN (STRONGYLOCENTROTUS PURPURATUS). Biological Bulletin, 1964, 127, 280-293.	1.8	24
71	Pikaia gracilens Walcott: Stem Chordate, or Already Specialized in the Cambrian?. Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2013, 320, 247-271.	1.3	23
72	Sequence and developmental expression ofAmphiTob, an amphioxus homolog of vertebrateTob in thePC3/BTG1/Tob family of tumor suppressor genes. Developmental Dynamics, 1997, 210, 11-18.	1.8	22

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73	The coelomic elements of sea urchins (Strongylocentrotus). Protoplasma, 1970, 71, 419-442.	2.1	21
74	Morphology of a new deepâ€sea acorn worm (class Enteropneusta, phylum Hemichordata): A partâ€time demersal drifter with externalized ovaries. Journal of Morphology, 2012, 273, 661-671.	1.2	21
75	The amphioxus T-box gene, AmphiTbx15/18/22, illuminates the origins of chordate segmentation. Evolution & Development, 2006, 8, 119-129.	2.0	20
76	The fine structure of the growth stage oocytes of a lancelet (= amphioxus),Branchiostoma lanceolatum. Invertebrate Reproduction and Development, 1991, 19, 107-122.	0.8	19
77	Expression of theAmphiTcfgene in amphioxus: Insights into the evolution of the TCF/LEF gene family during vertebrate evolution. Developmental Dynamics, 2006, 235, 3396-3403.	1.8	19
78	The Florida amphioxus (Cephalochordata) hosts larvae of the tapeworm Acanthobothrium brevissime: natural history, anatomy and taxonomic identification of the parasite. Acta Zoologica, 2009, 90, 75-86.	0.8	18
79	Nervous systems and scenarios for the invertebrate-to-vertebrate transition. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150047.	4.0	18
80	Walter Garstang: a retrospective. Theory in Biosciences, 2011, 130, 247-258.	1.4	16
81	Formation of the initial kidney and mouth opening in larval amphioxus studied with serial blockface scanning electron microscopy (SBSEM). EvoDevo, 2018, 9, 16.	3.2	16
82	Fine Structure of the Mesothelia and Extracellular Materials in the Coelomic Fluid of the Fin Boxes, Myocoels and Sclerocoels of a Lancelet, Branchiostoma floridae (Cephalochordata = Acrania). Acta Zoologica, 1990, 71, 225-234.	0.8	15
83	Molecular Identification of Larvae of a Tetraphyllidean Tapeworm (Platyhelminthes: Eucestoda) in a Razor Clam as an Alternative Intermediate Host in the Life Cycle of Acanthobothrium brevissime. Journal of Parasitology, 2009, 95, 1215-1217.	0.7	15
84	Morphologically Specialized Sperm from the Ovary ofIsometra vivipara(Echinodermata -) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 30	0.8	14
85	The clubâ€shaped gland of amphioxus: export of secretion to the pharynx in preâ€metamorphic larvae and apoptosis during metamorphosis. Acta Zoologica, 2009, 90, 372-379.	0.8	13
86	An Externally Brooding Acorn Worm (Hemichordata, Enteropneusta, Torquaratoridae) from the Russian Arctic. Biological Bulletin, 2013, 225, 113-123.	1.8	13
87	The Fine Structure of the Gastric Exocrine Cells of the Purple Sea Urchin, Strongylocentrotus purpuratus. Transactions of the American Microscopical Society, 1968, 87, 201.	0.3	12
88	Tail regression induced by elevated retinoic acid signaling in amphioxus larvae occurs by tissue remodeling, not cell death. Evolution & Development, 2011, 13, 427-435.	2.0	11
89	Hybrids Between the Florida Amphioxus (Branchiostoma floridae) and the Bahamas Lancelet (Asymmetron lucayanum): Developmental Morphology and Chromosome Counts. Biological Bulletin, 2015, 228, 13-24.	1.8	11
90	Electron microscopic studies of the digestive tract and absorption from the gut lumen of a feather star, oligometra serripinna (Echinodermata). Zoomorphology, 1984, 104, 252-259.	0.8	10

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91	The Role of Ligaments in Arm Extension in Feather Stars (Echinodermata: Crinoidea). Acta Zoologica, 1987, 68, 79-82.	0.8	10
92	The Fine Structure of the Testis of a Lancelet (=Amphioxus), Branchiostoma floridae (Phylum) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.8	9
93	Hagfish embryos againâ€"the end of a long drought. BioEssays, 2007, 29, 833-836.	2.5	9
94	A new deep-sea species of harrimaniid enteropneust (Hemichordata). Proceedings of the Biological Society of Washington, 2012, 125, 228-240.	0.3	9
95	The ups and downs of amphioxus biology: a history. International Journal of Developmental Biology, 2017, 61, 575-583.	0.6	9
96	Epidermal mucus and the reproduction of a crinoid echinoderm. Nature, 1975, 255, 223-224.	27.8	8
97	The Histochemistry and Fine Structure of the Nutritional Reserves in the Fin Rays of a Lancelet, Branchiostoma lanceolatum (Cephalochordata = Acrania). Acta Zoologica, 1991, 72, 203-207.	0.8	8
98	Cephalochordates: A window into vertebrate origins. Current Topics in Developmental Biology, 2021, 141, 119-147.	2.2	8
99	Cholinesterase in larvae of the ascidian,Ciona intestinalis, developing from fragments cut from centrifuged eggs. Development Genes and Evolution, 1974, 175, 91-102.	0.9	7
100	Chordates. Current Biology, 2005, 15, R911-R914.	3.9	7
101	Amphioxus tails: source and fate of larval fin rays and the metamorphic transition from an ectodermal to a predominantly mesodermal tail. Acta Zoologica, 2015, 96, 117-125.	0.8	7
102	The long and winding path to understanding kidney structure in amphioxus - a review. International Journal of Developmental Biology, 2017, 61, 683-688.	0.6	7
103	The sensory peripheral nervous system in the tail of a cephalochordate studied by serial blockface scanning electron microscopy. Journal of Comparative Neurology, 2020, 528, 2569-2582.	1.6	7
104	Fine structure of oocyte maturation in a crinoid echinoderm,Oxycomanthus japonicus: A time-lapse study by serial biopsy. Journal of Morphology, 1988, 198, 205-217.	1.2	6
105	Magnetic resonance imaging (MRI) has failed to distinguish between smaller gut regions and larger haemal sinuses in sea urchins (Echinodermata: Echinoidea). BMC Biology, 2009, 7, 39; author reply 39.	3.8	6
106	The evolution of genes encoding for green fluorescent proteins: insights from cephalochordates (amphioxus). Scientific Reports, 2016, 6, 28350.	3.3	6
107	Ran GTPase, an eukaryotic gene novelty, is involved in amphioxus mitosis. PLoS ONE, 2018, 13, e0196930.	2.5	6
108	AmphiBMP2/4, an amphioxus bone morphogenetic protein closely related to Drosophila decapentaplegic and vertebrate BMP2 and BMP4: Insights into evolution of dorsoventral axis specification. Developmental Dynamics, 1998, 213, 130-139.	1.8	6

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109	Rediscovery and augmented description of the HMS â€˜Challengerâ€™ acorn worm (Hemichordata,) Tj ETQq1 1 0.784314 rgBT /Over Biological Association of the United Kingdom, 2013, 93, 2197-2205.	0.8	5
110	Serial blockface SEM suggests that stem cells may participate in adult notochord growth in an invertebrate chordate, the Bahamas lancelet. EvoDevo, 2020, 11, 22.	3.2	5
111	Tail regeneration in a cephalochordate, the Bahamas lancelet, <scp>Asymmetron lucayanum</scp>. Journal of Morphology, 2021, 282, 217-229.	1.2	5
112	A new species of deepâ€sea torquaratorid enteropneust (Hemichordata): A sequential hermaphrodite with exceptionally wide lips. Invertebrate Biology, 2022, 141, .	0.9	5
113	ELECTRON MICROSCOPIC DEMONSTRATION OF A DITHIOTHREITOL-LABILE VITELLINE COAT SURROUNDING THE UNFERTILIZED EGG OF COMANTHUS JAPONICA (ECHINODERMATA: CRINOIDEA)*. Development Growth and Differentiation, 1976, 18, 199-204.	1.5	4
114	Siphons and siphonal grooves in the digestive systems of the Echinoidea (Echinodermata). Zoomorphology, 2008, 127, 259-264.	0.8	3
115	Conservation of BMP2/4 expression patterns within the clade Branchiostoma (amphioxus): Resolving interspecific discrepancies. Gene Expression Patterns, 2017, 25-26, 71-75.	0.8	3
116	Digestive system in regular sea urchins. Developments in Aquaculture and Fisheries Science, 2020, 43, 147-163.	1.3	3
117	The invertebrate chordate amphioxus gives clues to vertebrate origins. Current Topics in Developmental Biology, 2022, 147, 563-594.	2.2	3
118	Hunting needles in a haystack: Migrating precursors of epidermal sensory neurons in amphioxus found with serial blockface scanning electron microscopy (SBSEM). Acta Zoologica, 2021, 102, 165-170.	0.8	2
119	Sequence and developmental expression of AmphiTob, an amphioxus homolog of vertebrate Tob in the PC3/BTG1/Tob family of tumor suppressor genes. Developmental Dynamics, 1997, 210, 11-18.	1.8	2
120	Vincenzo Colucciâ€™s 1886 memoir, Intorno alla rigenerazione degli arti e della coda nei tritoni, annotated and translated into English as: Concerning regeneration of the limbs and tail in salamanders. , 2021, 88, 837-890.		0
121	Epidermal changes during tail regeneration in the Bahamas lancelet, Asymmetron lucayanum (Cephalochordata). Acta Zoologica, 0, , .	0.8	0