

Timothy E Higham

List of Publications by Year in descending order

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93
papers

3,028
citations

126858

33
h-index

189801

50
g-index

93
all docs

93
docs citations

93
times ranked

1999
citing authors

#	ARTICLE	IF	CITATIONS
1	Suction feeding mechanics, performance, and diversity in fishes. <i>Integrative and Comparative Biology</i> , 2007, 47, 96-106.	0.9	149
2	Multidimensional analysis of suction feeding performance in fishes: fluid speed, acceleration, strike accuracy and the ingested volume of water. <i>Journal of Experimental Biology</i> , 2006, 209, 2713-2725.	0.8	139
3	Spatial and temporal patterns of water flow generated by suction-feeding bluegill sunfish <i>Lepomis macrochirus</i> resolved by Particle Image Velocimetry. <i>Journal of Experimental Biology</i> , 2005, 208, 2661-2671.	0.8	127
4	The integration of locomotion and prey capture in vertebrates: Morphology, behavior, and performance. <i>Integrative and Comparative Biology</i> , 2007, 47, 82-95.	0.9	120
5	Locomotion of lizards on inclines and perches: hindlimb kinematics of an arboreal specialist and a terrestrial generalist. <i>Journal of Experimental Biology</i> , 2004, 207, 233-248.	0.8	86
6	Sucking while swimming: evaluating the effects of ram speed on suction generation in bluegill sunfish <i>Lepomis macrochirus</i> using digital particle image velocimetry. <i>Journal of Experimental Biology</i> , 2005, 208, 2653-2660.	0.8	83
7	The pressures of suction feeding: the relation between buccal pressure and induced fluid speed in centrarchid fishes. <i>Journal of Experimental Biology</i> , 2006, 209, 3281-3287.	0.8	83
8	A new angle on clinging in geckos: incline, not substrate, triggers the deployment of the adhesive system. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2009, 276, 3705-3709.	1.2	80
9	Feeding, fins and braking maneuvers: locomotion during prey capture in centrarchid fishes. <i>Journal of Experimental Biology</i> , 2007, 210, 107-117.	0.8	75
10	Maneuvering in an arboreal habitat: the effects of turning angle on the locomotion of three sympatric ecomorphs of <i>Anolis</i> lizards. <i>Journal of Experimental Biology</i> , 2001, 204, 4141-4155.	0.8	75
11	Morphology, Kinematics, and Dynamics: The Mechanics of Suction Feeding in Fishes. <i>Integrative and Comparative Biology</i> , 2015, 55, 21-35.	0.9	71
12	How forelimb and hindlimb function changes with incline and perch diameter in the green anole, <i>Anolis carolinensis</i> . <i>Journal of Experimental Biology</i> , 2012, 215, 2288-2300.	0.8	69
13	The Scaling of Uphill and Downhill Locomotion in Legged Animals. <i>Integrative and Comparative Biology</i> , 2014, 54, 1159-1172.	0.9	65
14	Turbulence, Temperature, and Turbidity: The Ecomechanics of Predator-Prey Interactions in Fishes. <i>Integrative and Comparative Biology</i> , 2015, 55, 6-20.	0.9	65
15	Functional diversification within and between muscle synergists during locomotion. <i>Biology Letters</i> , 2008, 4, 41-44.	1.0	64
16	The Integrative Biology of Gecko Adhesion: Historical Review, Current Understanding, and Grand Challenges. <i>Integrative and Comparative Biology</i> , 2019, 59, 101-116.	0.9	64
17	Adaptive simplification and the evolution of gecko locomotion: Morphological and biomechanical consequences of losing adhesion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 809-814.	3.3	55
18	Subdigital adhesive pad morphology varies in relation to structural habitat use in the Namib Day Gecko. <i>Functional Ecology</i> , 2015, 29, 66-77.	1.7	51

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19	Integrative Biology of Tail Autotomy in Lizards. <i>Physiological and Biochemical Zoology</i> , 2013, 86, 603-610.	0.6	47
20	Rattlesnakes are extremely fast and variable when striking at kangaroo rats in nature: Three-dimensional high-speed kinematics at night. <i>Scientific Reports</i> , 2017, 7, 40412.	1.6	47
21	Constraints on starting and stopping: behavior compensates for reduced pectoral fin area during braking of the bluegill sunfish <i>Lepomis macrochirus</i> . <i>Journal of Experimental Biology</i> , 2005, 208, 4735-4746.	0.8	45
22	Divergence in locomotor performance, ecology, and morphology between two sympatric sister species of desert-dwelling gecko. <i>Biological Journal of the Linnean Society</i> , 2010, 101, 860-869.	0.7	45
23	In vivo muscle activity in the hindlimb of the arboreal lizard, <i>Chamaeleo calyptratus</i> : general patterns and the effects of incline. <i>Journal of Experimental Biology</i> , 2004, 207, 249-261.	0.8	44
24	Complex Systems Are More than the Sum of Their Parts: Using Integration to Understand Performance, Biomechanics, and Diversity. <i>Integrative and Comparative Biology</i> , 2015, 55, 146-165.	0.9	44
25	The Ecomechanics of Gecko Adhesion: Natural Surface Topography, Evolution, and Biomimetics. <i>Integrative and Comparative Biology</i> , 2019, 59, 148-167.	0.9	44
26	Linking ecomechanical models and functional traits to understand phenotypic diversity. <i>Trends in Ecology and Evolution</i> , 2021, 36, 860-873.	4.2	41
27	Slipping, sliding and stability: locomotor strategies for overcoming low-friction surfaces. <i>Journal of Experimental Biology</i> , 2011, 214, 1369-1378.	0.8	39
28	Lateral movements of a massive tail influence gecko locomotion: an integrative study comparing tail restriction and autotomy. <i>Scientific Reports</i> , 2017, 7, 10865.	1.6	39
29	Tail autotomy and subsequent regeneration alter the mechanics of locomotion in lizards. <i>Journal of Experimental Biology</i> , 2014, 217, 3891-7.	0.8	38
30	Attachment Beyond the Adhesive System: The Contribution of Claws to Gecko Clinging and Locomotion. <i>Integrative and Comparative Biology</i> , 2019, 59, 168-181.	0.9	37
31	Integration within and between muscles during terrestrial locomotion: effects of incline and speed. <i>Journal of Experimental Biology</i> , 2008, 211, 2303-2316.	0.8	36
32	Time resolved measurements of the flow generated by suction feeding fish. <i>Experiments in Fluids</i> , 2007, 43, 713-724.	1.1	35
33	Speciation through the lens of biomechanics: locomotion, prey capture and reproductive isolation. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2016, 283, 20161294.	1.2	35
34	Geckos significantly alter foot orientation to facilitate adhesion during downhill locomotion. <i>Biology Letters</i> , 2014, 10, 20140456.	1.0	34
35	Posture, speed, and habitat structure: three-dimensional hindlimb kinematics of two species of padless geckos. <i>Zoology</i> , 2011, 114, 104-112.	0.6	31
36	How muscles define maximum running performance in lizards: an analysis using swing- and stance-phase muscles. <i>Journal of Experimental Biology</i> , 2011, 214, 1685-1691.	0.8	31

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37	Modelled three-dimensional suction accuracy predicts prey capture success in three species of centrarchid fishes. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20140223.	1.5	30
38	Sharks modulate their escape behavior in response to predator size, speed and approach orientation. <i>Zoology</i> , 2014, 117, 377-382.	0.6	29
39	Population genetic structure and species delimitation of a widespread, Neotropical dwarf gecko. <i>Molecular Phylogenetics and Evolution</i> , 2019, 133, 54-66.	1.2	29
40	The evolution of digit form in <i>Gonotodes</i> (Gekkota: Sphaerodactylidae) and its bearing on the transition from frictional to adhesive contact in gekkotans. <i>Journal of Morphology</i> , 2015, 276, 1311-1332.	0.6	28
41	Context-dependent changes in motor control and kinematics during locomotion: modulation and decoupling. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2014, 281, 20133331.	1.2	27
42	Flip, flop and fly: modulated motor control and highly variable movement patterns of autotomized gecko tails. <i>Biology Letters</i> , 2010, 6, 70-73.	1.0	26
43	Performance and three-dimensional kinematics of bipedal lizards during obstacle negotiation. <i>Journal of Experimental Biology</i> , 2012, 215, 247-255.	0.8	26
44	Determinants of predation success: How to survive an attack from a rattlesnake. <i>Functional Ecology</i> , 2019, 33, 1099-1109.	1.7	26
45	The integration of locomotion and prey capture in divergent cottid fishes: functional disparity despite morphological similarity. <i>Journal of Experimental Biology</i> , 2011, 214, 1092-1099.	0.8	25
46	Life in the flow lane: differences in pectoral fin morphology suggest transitions in station-holding demand across species of marine sculpin. <i>Zoology</i> , 2012, 115, 223-232.	0.6	25
47	Consequences of lost endings: caudal autotomy as a lens for focusing attention on tail function during locomotion. <i>Journal of Experimental Biology</i> , 2016, 219, 2416-2422.	0.8	24
48	XX/XY Sex Chromosomes in the South American Dwarf Gecko (<i>Gonotodes humeralis</i>). <i>Journal of Heredity</i> , 2018, 109, 462-468.	1.0	23
49	Springs, steroids, and slingshots: the roles of enhancers and constraints in animal movement. <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2013, 183, 583-595.	0.7	22
50	Suction power output and the inertial cost of rotating the neurocranium to generate suction in fish. <i>Journal of Theoretical Biology</i> , 2015, 372, 159-167.	0.8	22
51	Geckos decouple fore- and hind limb kinematics in response to changes in incline. <i>Frontiers in Zoology</i> , 2016, 13, 11.	0.9	22
52	Pleistocene climatic fluctuations drive isolation and secondary contact in the red diamond rattlesnake (<i>Crotalus ruber</i>) in Baja California. <i>Journal of Biogeography</i> , 2018, 45, 64-75.	1.4	21
53	Leaping lizards landing on leaves: escape-induced jumps in the rainforest canopy challenge the adhesive limits of geckos. <i>Journal of the Royal Society Interface</i> , 2017, 14, 20170156.	1.5	20
54	Escape dynamics of free-ranging desert kangaroo rats (Rodentia: Heteromyidae) evading rattlesnake strikes. <i>Biological Journal of the Linnean Society</i> , 2019, 127, 164-172.	0.7	20

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55	Replicating the complexity of natural surfaces: technique validation and applications for biomimetics, ecology and evolution. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2019, 377, 20180265.	1.6	20
56	Determinants of lizard escape performance: decision, motivation, ability, and opportunity. , 0, , 287-321.		19
57	Recent interactions with snakes enhance escape performance of desert kangaroo rats (Rodentia: Tj ETQq1 1 0.784314 rgBT /Overlap 0.7 19	0.7	19
58	How rapid changes in body mass affect the locomotion of terrestrial vertebrates: ecology, evolution and biomechanics of a natural perturbation. <i>Biological Journal of the Linnean Society</i> , 2018, 124, 279-293.	0.7	18
59	Non-uniform evolutionary response of gecko eye size to changes in diel activity patterns. <i>Biology Letters</i> , 2018, 14, 20180064.	1.0	16
60	Effects of Training and Testosterone on Muscle Fiber Types and Locomotor Performance in Male Six-Lined Racerunners (<i>Aspidozelis sexlineata</i>). <i>Physiological and Biochemical Zoology</i> , 2011, 84, 394-405.	0.6	15
61	Passively stuck: death does not affect gecko adhesion strength. <i>Biology Letters</i> , 2014, 10, 20140701.	1.0	15
62	And thereby hangs a tail: morphology, developmental patterns and biomechanics of the adhesive tails of crested geckos (<i>Correlophus ciliatus</i>). <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2021, 288, 20210650.	1.2	14
63	Arboreal Day Geckos (<i>Phelsuma madagascariensis</i>) Differentially Modulate Fore- and Hind Limb Kinematics in Response to Changes in Habitat Structure. <i>PLoS ONE</i> , 2016, 11, e0153520.	1.1	14
64	Controlled Chaos: Three-Dimensional Kinematics, Fiber Histochemistry, and Muscle Contractile Dynamics of Autotomized Lizard Tails. <i>Physiological and Biochemical Zoology</i> , 2013, 86, 611-630.	0.6	12
65	Angling-induced injuries have a negative impact on suction feeding performance and hydrodynamics in marine shiner perch, <i>Cymatogaster aggregata</i> . <i>Journal of Experimental Biology</i> , 2018, 221, .	0.8	12
66	Tail Control Enhances Gliding in Arboreal Lizards: An Integrative Study Using a 3D Geometric Model and Numerical Simulation. <i>Integrative and Comparative Biology</i> , 2021, 61, 579-588.	0.9	12
67	Time-varying motor control of autotomized leopard gecko tails: multiple inputs and behavioral modulation. <i>Journal of Experimental Biology</i> , 2012, 215, 435-441.	0.8	11
68	Density and distribution of cutaneous sensilla on tails of leopard geckos (<i>Eublepharis</i>) Tj ETQq0 0 0 rgBT /Overlap 10 Tf 50 222 Td (0.6 11	0.6	11
69	Individuals of the common Namib Day Gecko vary in how adaptive simplification alters sprint biomechanics. <i>Scientific Reports</i> , 2017, 7, 15595.	1.6	11
70	The effects of temperature on the defensive strikes of rattlesnakes. <i>Journal of Experimental Biology</i> , 2020, 223, .	0.8	10
71	The integration of lateral gastrocnemius muscle function and kinematics in running turkeys. <i>Zoology</i> , 2008, 111, 483-493.	0.6	9
72	Functional divergence between morphs of a dwarf chameleon: differential locomotor kinematics in relation to habitat structure. <i>Biological Journal of the Linnean Society</i> , 2015, 116, 27-40.	0.7	9

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73	Clinging performance on natural substrates predicts habitat use in anoles and geckos. <i>Functional Ecology</i> , 0, , .	1.7	9
74	Limb segment contributions to the evolution of hind limb length in phrynosomatid lizards. <i>Biological Journal of the Linnean Society</i> , 2016, 117, 775-795.	0.7	8
75	Comparative dynamics of suction feeding in marine and freshwater three-spined stickleback, <i>Gasterosteus aculeatus</i> : kinematics and geometric morphometrics. <i>Biological Journal of the Linnean Society</i> , 2017, 122, 400-410.	0.7	8
76	Integrating gastrocnemius force-length properties, <i>in vivo</i> activation, and operating lengths reveals how <i>Anolis</i> deal with ecological challenges. <i>Journal of Experimental Biology</i> , 2017, 220, 796-806.	0.8	7
77	Light level impacts locomotor biomechanics in a secondarily diurnal gecko, <i>Rhoptropus afer</i> . <i>Journal of Experimental Biology</i> , 2016, 219, 3649-3655.	0.8	7
78	Evolution of pedal digit orientation and morphology in relation to acquisition and secondary loss of the adhesive system in geckos. <i>Journal of Morphology</i> , 2019, 280, 1582-1599.	0.6	7
79	Terrestrial Locomotion—Where Do We Stand, Where Are We Going? An Introduction to the Symposium. <i>Integrative and Comparative Biology</i> , 2014, 54, 1051-1057.	0.9	6
80	The ontogenetic scaling of form and function in the spotted ratfish, <i>Hydrolagus coliei</i> (Chondrichthyes: Chimaeriformes): Fins, muscles, and locomotion. <i>Journal of Morphology</i> , 2018, 279, 1408-1418.	0.6	6
81	The Effects of Temperature on the Kinematics of Rattlesnake Predatory Strikes in Both Captive and Field Environments. <i>Integrative Organismal Biology</i> , 2020, 2, obaa025.	0.9	6
82	High-speed terrestrial substrate transitions: How a fleeing cursorial day gecko copes with compliance changes that are experienced in nature. <i>Functional Ecology</i> , 2022, 36, 471-484.	1.7	6
83	Hammer it out: shifts in habitat are associated with changes in fin and body shape in the scalloped hammerhead (<i>Sphyrna lewini</i>). <i>Biological Journal of the Linnean Society</i> , 2022, 136, 201-212.	0.7	6
84	Neuromuscular control of locomotion is altered by tail autotomy in geckos. <i>Journal of Experimental Biology</i> , 2018, 221, .	0.8	5
85	A Hierarchical View of Gecko Locomotion: Photoc Environment, Physiological Optics, and Locomotor Performance. <i>Integrative and Comparative Biology</i> , 2019, 59, 443-455.	0.9	5
86	On the origin of frictional adhesion in geckos: small morphological changes lead to a major biomechanical transition in the genus <i>Gonatodes</i> . <i>Biological Journal of the Linnean Society</i> , 2016, , .	0.7	4
87	Tail Autotomy Alters Prey Capture Performance and Kinematics, but not Success, in Banded Geckos. <i>Integrative and Comparative Biology</i> , 2021, 61, 538-549.	0.9	4
88	Comparative analysis of <i>Dipodomys</i> species indicates that kangaroo rat hindlimb anatomy is adapted for rapid evasive leaping. <i>Journal of Anatomy</i> , 2022, 240, 466-474.	0.9	3
89	The Evolution of Mechanical Properties of Conifer and Angiosperm Woods. <i>Integrative and Comparative Biology</i> , 2022, 62, 668-682.	0.9	3
90	Kinematic integration during prey capture varies among individuals but not ecological contexts in bluegill sunfish, <i>Lepomis macrochirus</i> (Perciformes: Centrarchidae). <i>Biological Journal of the Linnean Society</i> , 2020, 130, 205-224.	0.7	2

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91	Shaking things up: the unique feeding behaviour of western banded geckos when consuming scorpions. <i>Biological Journal of the Linnean Society</i> , 0, , .	0.7	1
92	Ankle structure of the Tokay gecko (<i>Gekko gecko</i>) and its role in the deployment of the subdigital adhesive system. <i>Journal of Anatomy</i> , 2021, 239, 1503-1515.	0.9	0
93	Jumping with adhesion: landing surface incline alters impact force and body kinematics in crested geckos. <i>Scientific Reports</i> , 2021, 11, 23043.	1.6	0