

# Timothy E Higham

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

89  
papers

2,421  
citations

28  
h-index

45  
g-index

93  
ext. papers

2,782  
ext. citations

3.1  
avg, IF

5.61  
L-index

| #  | Paper  | IF   | Citations |
|----|--|------|-----------|
| 89 | 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> , <b>2006</b> , 209, 2713-25                               | 3    | 126       |
| 88 | Suction feeding mechanics, performance, and diversity in fishes. <i>Integrative and Comparative Biology</i> , <b>2007</b> , 47, 96-106   | 2.8  | 118       |
| 87 | 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> , <b>2005</b> , 208, 2661-71 <sup>3</sup>      |      | 114       |
| 86 | The integration of locomotion and prey capture in vertebrates: Morphology, behavior, and performance. <i>Integrative and Comparative Biology</i> , <b>2007</b> , 47, 82-95   | 2.8  | 103       |
| 85 | 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> , <b>2005</b> , 208, 2653-60     | 3    | 80        |
| 84 | The pressures of suction feeding: the relation between buccal pressure and induced fluid speed in centrarchid fishes. <i>Journal of Experimental Biology</i> , <b>2006</b> , 209, 3281-7   | 3    | 75        |
| 83 | 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> , <b>2009</b> , 276, 3705-9  | 4.4  | 71        |
| 82 | Locomotion of lizards on inclines and perches: hindlimb kinematics of an arboreal specialist and a terrestrial generalist. <i>Journal of Experimental Biology</i> , <b>2004</b> , 207, 233-48  | 3    | 70        |
| 81 | Maneuvering in an arboreal habitat: the effects of turning angle on the locomotion of three sympatric ecomorphs of Anolis lizards. <i>Journal of Experimental Biology</i> , <b>2001</b> , 204, 4141-4155   | 3    | 70        |
| 80 | Feeding, fins and braking maneuvers: locomotion during prey capture in centrarchid fishes. <i>Journal of Experimental Biology</i> , <b>2007</b> , 210, 107-17  | 3    | 66        |
| 79 | Functional diversification within and between muscle synergists during locomotion. <i>Biology Letters</i> , <b>2008</b> , 4, 41-4  | 3.6  | 60        |
| 78 | 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> , <b>2012</b> , 215, 2288-300   | 3    | 54        |
| 77 | Morphology, Kinematics, and Dynamics: The Mechanics of Suction Feeding in Fishes. <i>Integrative and Comparative Biology</i> , <b>2015</b> , 55, 21-35   | 2.8  | 52        |
| 76 | 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> , <b>2015</b> , 112, 809-14 | 11.5 | 50        |
| 75 | The scaling of uphill and downhill locomotion in legged animals. <i>Integrative and Comparative Biology</i> , <b>2014</b> , 54, 1159-72  | 2.8  | 49        |
| 74 | Subdigital adhesive pad morphology varies in relation to structural habitat use in the Namib Day Gecko. <i>Functional Ecology</i> , <b>2015</b> , 29, 66-77  | 5.6  | 44        |
| 73 | Turbulence, Temperature, and Turbidity: The Ecomechanics of Predator-Prey Interactions in Fishes. <i>Integrative and Comparative Biology</i> , <b>2015</b> , 55, 6-20  | 2.8  | 43        |

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|----|---|-----|----|
| 72 | Divergence in locomotor performance, ecology, and morphology between two sympatric sister species of desert-dwelling gecko. <i>Biological Journal of the Linnean Society</i> , <b>2010</b> , 101, 860-869                                     | 1.9 | 42 |
| 71 | 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> , <b>2005</b> , 208, 4735-46 <sup>3</sup> |     | 42 |
| 70 | 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> , <b>2004</b> , 207, 249-61                                | 3   | 41 |
| 69 | Rattlesnakes are extremely fast and variable when striking at kangaroo rats in nature: Three-dimensional high-speed kinematics at night. <i>Scientific Reports</i> , <b>2017</b> , 7, 40412   | 4.9 | 40 |
| 68 | The Integrative Biology of Gecko Adhesion: Historical Review, Current Understanding, and Grand Challenges. <i>Integrative and Comparative Biology</i> , <b>2019</b> , 59, 101-116   | 2.8 | 39 |
| 67 | Integrative biology of tail autotomy in lizards. <i>Physiological and Biochemical Zoology</i> , <b>2013</b> , 86, 603-10  | 2   | 38 |
| 66 | Complex Systems Are More than the Sum of Their Parts: Using Integration to Understand Performance, Biomechanics, and Diversity. <i>Integrative and Comparative Biology</i> , <b>2015</b> , 55, 146-65   | 2.8 | 37 |
| 65 | Slipping, sliding and stability: locomotor strategies for overcoming low-friction surfaces. <i>Journal of Experimental Biology</i> , <b>2011</b> , 214, 1369-78   | 3   | 36 |
| 64 | Integration within and between muscles during terrestrial locomotion: effects of incline and speed. <i>Journal of Experimental Biology</i> , <b>2008</b> , 211, 2303-16   | 3   | 34 |
| 63 | Time resolved measurements of the flow generated by suction feeding fish. <i>Experiments in Fluids</i> , <b>2007</b> , 43, 713-724  | 2.5 | 33 |
| 62 | Tail autotomy and subsequent regeneration alter the mechanics of locomotion in lizards. <i>Journal of Experimental Biology</i> , <b>2014</b> , 217, 3891-7  | 3   | 32 |
| 61 | The Ecomechanics of Gecko Adhesion: Natural Surface Topography, Evolution, and Biomimetics. <i>Integrative and Comparative Biology</i> , <b>2019</b> , 59, 148-167  | 2.8 | 28 |
| 60 | Posture, speed, and habitat structure: three-dimensional hindlimb kinematics of two species of padless geckos. <i>Zoology</i> , <b>2011</b> , 114, 104-12   | 1.7 | 28 |
| 59 | Speciation through the lens of biomechanics: locomotion, prey capture and reproductive isolation. <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>2016</b> , 283,   | 4.4 | 27 |
| 58 | How muscles define maximum running performance in lizards: an analysis using swing- and stance-phase muscles. <i>Journal of Experimental Biology</i> , <b>2011</b> , 214, 1685-91   | 3   | 27 |
| 57 | Geckos significantly alter foot orientation to facilitate adhesion during downhill locomotion. <i>Biology Letters</i> , <b>2014</b> , 10, 20140456  | 3.6 | 26 |
| 56 | The evolution of digit form in Gonatodes (Gekkota: Sphaerodactylidae) and its bearing on the transition from frictional to adhesive contact in gekkotans. <i>Journal of Morphology</i> , <b>2015</b> , 276, 1311-32                           | 1.6 | 26 |
| 55 | Flip, flop and fly: modulated motor control and highly variable movement patterns of autotomized gecko tails. <i>Biology Letters</i> , <b>2010</b> , 6, 70-3  | 3.6 | 24 |

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|----|--|---------|----|
| 54 | Attachment Beyond the Adhesive System: The Contribution of Claws to Gecko Clinging and Locomotion. <i>Integrative and Comparative Biology</i> , <b>2019</b> , 59, 168-181  | 2.8     | 23 |
| 53 | Context-dependent changes in motor control and kinematics during locomotion: modulation and decoupling. <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>2014</b> , 281, 20133331   | 4.4     | 23 |
| 52 | Sharks modulate their escape behavior in response to predator size, speed and approach orientation. <i>Zoology</i> , <b>2014</b> , 117, 377-82   | 1.7     | 23 |
| 51 | Modelled three-dimensional suction accuracy predicts prey capture success in three species of centrarchid fishes. <i>Journal of the Royal Society Interface</i> , <b>2014</b> , 11, 20140223   | 4.1     | 23 |
| 50 | The integration of locomotion and prey capture in divergent cottid fishes: functional disparity despite morphological similarity. <i>Journal of Experimental Biology</i> , <b>2011</b> , 214, 1092-9   | 3       | 23 |
| 49 | Performance and three-dimensional kinematics of bipedal lizards during obstacle negotiation. <i>Journal of Experimental Biology</i> , <b>2012</b> , 215, 247-55  | 3       | 23 |
| 48 | Population genetic structure and species delimitation of a widespread, Neotropical dwarf gecko. <i>Molecular Phylogenetics and Evolution</i> , <b>2019</b> , 133, 54-66  | 4.1     | 22 |
| 47 | Lateral movements of a massive tail influence gecko locomotion: an integrative study comparing tail restriction and autotomy. <i>Scientific Reports</i> , <b>2017</b> , 7, 10865   | 4.9     | 21 |
| 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> , <b>2012</b> , 115, 223-32   | 1.7     | 20 |
| 45 | 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> , <b>2013</b> , 183, 583-95                                | 2.2     | 19 |
| 44 | Suction power output and the inertial cost of rotating the neurocranium to generate suction in fish. <i>Journal of Theoretical Biology</i> , <b>2015</b> , 372, 159-67   | 2.3     | 18 |
| 43 | Consequences of lost endings: caudal autotomy as a lens for focusing attention on tail function during locomotion. <i>Journal of Experimental Biology</i> , <b>2016</b> , 219, 2416-22   | 3       | 17 |
| 42 | Geckos decouple fore- and hind limb kinematics in response to changes in incline. <i>Frontiers in Zoology</i> , <b>2016</b> , 13, 11   | 2.8     | 17 |
| 41 | Effects of training and testosterone on muscle fiber types and locomotor performance in male six-lined racerunners ( <i>Aspidoscelis sexlineata</i> ). <i>Physiological and Biochemical Zoology</i> , <b>2011</b> , 84, 394-405 <sup>2</sup>             |         | 15 |
| 40 | Determinants of lizard escape performance: decision, motivation, ability, and opportunity  | 287-321 | 14 |
| 39 | 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> , <b>2019</b> , 377, 20180265 | 3       | 13 |
| 38 | Recent interactions with snakes enhance escape performance of desert kangaroo rats (Rodentia: Heteromyidae) during simulated attacks. <i>Biological Journal of the Linnean Society</i> , <b>2017</b> , 122, 651-660                                      | 1.9     | 13 |
| 37 | XX/XY Sex Chromosomes in the South American Dwarf Gecko ( <i>Gonatodes humeralis</i> ). <i>Journal of Heredity</i> , <b>2018</b> , 109, 462-468  | 2.4     | 13 |

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| 36 | Passively stuck: death does not affect gecko adhesion strength. <i>Biology Letters</i> , <b>2014</b> , 10, 20140701  | 3.6  | 13 |
| 35 | 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> , <b>2016</b> , 11, e0153520  | 3.7  | 13 |
| 34 | Escape dynamics of free-ranging desert kangaroo rats (Rodentia: Heteromyidae) evading rattlesnake strikes. <i>Biological Journal of the Linnean Society</i> , <b>2019</b> , 127, 164-172   | 1.9  | 12 |
| 33 | Determinants of predation success: How to survive an attack from a rattlesnake. <i>Functional Ecology</i> , <b>2019</b> , 33, 1099   | 5.6  | 12 |
| 32 | Controlled chaos: three-dimensional kinematics, fiber histochemistry, and muscle contractile dynamics of autotomized lizard tails. <i>Physiological and Biochemical Zoology</i> , <b>2013</b> , 86, 611-30                                       | 2    | 12 |
| 31 | 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> , <b>2018</b> , 124, 279-293                    | 1.9  | 12 |
| 30 | Non-uniform evolutionary response of gecko eye size to changes in diel activity patterns. <i>Biology Letters</i> , <b>2018</b> , 14,   | 3.6  | 12 |
| 29 | 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> , <b>2018</b> , 45, 64-75                                    | 4.1  | 11 |
| 28 | 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> , <b>2017</b> , 14,  | 4.1  | 11 |
| 27 | Time-varying motor control of autotomized leopard gecko tails: multiple inputs and behavioral modulation. <i>Journal of Experimental Biology</i> , <b>2012</b> , 215, 435-41   | 3    | 11 |
| 26 | Linking ecomechanical models and functional traits to understand phenotypic diversity. <i>Trends in Ecology and Evolution</i> , <b>2021</b> , 36, 860-873  | 10.9 | 11 |
| 25 | Density and distribution of cutaneous sensilla on tails of leopard geckos ( <i>Eublepharis macularius</i> ) in relation to caudal autotomy. <i>Journal of Morphology</i> , <b>2014</b> , 275, 961-79   | 1.6  | 9  |
| 24 | The integration of lateral gastrocnemius muscle function and kinematics in running turkeys. <i>Zoology</i> , <b>2008</b> , 111, 483-93   | 1.7  | 8  |
| 23 | Limb segment contributions to the evolution of hind limb length in phrynosomatid lizards. <i>Biological Journal of the Linnean Society</i> , <b>2016</b> , 117, 775-795  | 1.9  | 8  |
| 22 | Light level impacts locomotor biomechanics in a secondarily diurnal gecko, <i>Rhoptropus afer</i> . <i>Journal of Experimental Biology</i> , <b>2016</b> , 219, 3649-3655  | 3    | 7  |
| 21 | Individuals of the common Namib Day Gecko vary in how adaptive simplification alters sprint biomechanics. <i>Scientific Reports</i> , <b>2017</b> , 7, 15595   | 4.9  | 7  |
| 20 | Angling-induced injuries have a negative impact on suction feeding performance and hydrodynamics in marine shiner perch,. <i>Journal of Experimental Biology</i> , <b>2018</b> , 221,  | 3    | 7  |
| 19 | 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> , <b>2017</b> , 122, 400-410 | 1.9  | 6  |

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|----|--|-----|---|
| 18 | Functional divergence between morphs of a dwarf chameleon: differential locomotor kinematics in relation to habitat structure. <i>Biological Journal of the Linnean Society</i> , <b>2015</b> , 116, 27-40   | 1.9 | 6 |
| 17 | Tail Control Enhances Gliding in Arboreal Lizards: An Integrative Study Using a 3D Geometric Model and Numerical Simulation. <i>Integrative and Comparative Biology</i> , <b>2021</b> , 61, 579-588  | 2.8 | 6 |
| 16 | Terrestrial locomotion-where do we stand, where are we going? An introduction to the symposium. <i>Integrative and Comparative Biology</i> , <b>2014</b> , 54, 1051-7  | 2.8 | 5 |
| 15 | Integrating gastrocnemius force-length properties, activation and operating lengths reveals how deal with ecological challenges. <i>Journal of Experimental Biology</i> , <b>2017</b> , 220, 796-806   | 3   | 5 |
| 14 | Neuromuscular control of locomotion is altered by tail autotomy in geckos. <i>Journal of Experimental Biology</i> , <b>2018</b> , 221,   | 3   | 4 |
| 13 | A Hierarchical View of Gecko Locomotion: Photic Environment, Physiological Optics, and Locomotor Performance. <i>Integrative and Comparative Biology</i> , <b>2019</b> , 59, 443-455   | 2.8 | 4 |
| 12 | And thereby hangs a tail: morphology, developmental patterns and biomechanics of the adhesive tails of crested geckos (). <i>Proceedings of the Royal Society B: Biological Sciences</i> , <b>2021</b> , 288, 20210650                                     | 4.4 | 4 |
| 11 | The effects of temperature on the defensive strikes of rattlesnakes. <i>Journal of Experimental Biology</i> , <b>2020</b> , 223,   | 3   | 3 |
| 10 | 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> , <b>2019</b> , 280, 1582-1599  | 1.6 | 3 |
| 9  | 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> , <b>2016</b> ,                                      | 1.9 | 3 |
| 8  | The ontogenetic scaling of form and function in the spotted ratfish, <i>Hydrolagus colliei</i> (Chondrichthyes: Chimaeriformes): Fins, muscles, and locomotion. <i>Journal of Morphology</i> , <b>2018</b> , 279, 1408-1418                                | 1.6 | 3 |
| 7  | Comparative analysis of <i>Dipodomys</i> species indicates that kangaroo rat hindlimb anatomy is adapted for rapid evasive leaping. <i>Journal of Anatomy</i> , <b>2021</b> ,  | 2.9 | 2 |
| 6  | The Effects of Temperature on the Kinematics of Rattlesnake Predatory Strikes in Both Captive and Field Environments. <i>Integrative Organismal Biology</i> , <b>2020</b> , 2, obaa025   | 2.3 | 2 |
| 5  | Tail Autotomy Alters Prey Capture Performance and Kinematics, but not Success, in Banded Geckos. <i>Integrative and Comparative Biology</i> , <b>2021</b> , 61, 538-549  | 2.8 | 2 |
| 4  | High-speed terrestrial substrate transitions: How a fleeing cursorial day gecko copes with compliance changes that are experienced in nature. <i>Functional Ecology</i> , <b>2022</b> , 36, 471  | 5.6 | 1 |
| 3  | 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> , <b>2020</b> , 130, 205-224 | 1.9 | 1 |
| 2  | Jumping with adhesion: landing surface incline alters impact force and body kinematics in crested geckos. <i>Scientific Reports</i> , <b>2021</b> , 11, 23043  | 4.9 |   |
| 1  | Ankle structure of the Tokay gecko ( <i>Gekko gekko</i> ) and its role in the deployment of the subdigital adhesive system. <i>Journal of Anatomy</i> , <b>2021</b> , 239, 1503-1515   | 2.9 |   |

