P David Polly

List of Publications by Year
in descending order

114 papers	4,912 citations	101543 36 h-index	114465 63 g-index
125 all docs	125 docs citations	125 times ranked	4589 citing authors

#	Article	IF	Citations
1	The macroevolutionary consequences of phenotypic integration: from development to deep time. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130254.	4.0	274
2	Merging paleobiology with conservation biology to guide the future of terrestrial ecosystems. Science, 2017, 355, .	12.6	260
3	PHYLOGENETIC AND ENVIRONMENTAL COMPONENTS OF MORPHOLOGICAL VARIATION: SKULL, MANDIBLE, AND MOLAR SHAPE IN MARMOTS (MARMOTA, RODENTIA). Evolution; International Journal of Organic Evolution, 2005, 59, 2460-2472.	2.3	206
4	The Influence of Modularity on Cranial Morphological Disparity in Carnivora and Primates (Mammalia). PLoS ONE, 2010, 5, e9517.	2.5	201
5	Giant boid snake from the Palaeocene neotropics reveals hotter past equatorial temperatures. Nature, 2009, 457, 715-717.	27.8	179
6	Larger mammals have longer faces because of size-related constraints on skull form. Nature Communications, 2013, 4, 2458.	12.8	160
7	Geometric morphometrics: recent applications to the study of evolution and development. Journal of Zoology, 2010, 280, 1-7.	1.7	148
8	PHYLOGENETIC AND ENVIRONMENTAL COMPONENTS OF MORPHOLOGICAL VARIATION: SKULL, MANDIBLE, AND MOLAR SHAPE IN MARMOTS (MARMOTA, RODENTIA). Evolution; International Journal of Organic Evolution, 2005, 59, 2460.	2.3	139
9	Evolution of the snake body form reveals homoplasy in amniote Hox gene function. Nature, 2015, 520, 86-89.	27.8	133
10	Multigenic and morphometric differentiation of ground squirrels (Spermophilus, Scuiridae,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 387 Tc 43, 916-935.	2.7	109
11	Developmental Dynamics and G-Matrices: Can Morphometric Spaces be Used to Model Phenotypic Evolution?. Evolutionary Biology, 2008, 35, 83-96.	1.1	109
12	Paleontology and the Comparative Method: Ancestral Node Reconstructions versus Observed Node Values. American Naturalist, 2001, 157, 596-609.	2.1	100
13	Combining geometric morphometrics and finite element analysis with evolutionary modeling: towards a synthesis. Journal of Vertebrate Paleontology, 2016, 36, e1111225.	1.0	97
14	Methods for Studying Morphological Integration and Modularity. The Paleontological Society Papers, 2010, 16, 213-243.	0.6	88
15	MORPHOLOGICAL INTEGRATION IN THE HOMININ DENTITION: EVOLUTIONARY, DEVELOPMENTAL, AND FUNCTIONAL FACTORS. Evolution; International Journal of Organic Evolution, 2012, 66, 1024-1043.	2.3	86
16	PALEOPHYLOGEOGRAPHY: THE TEMPO OF GEOGRAPHIC DIFFERENTIATION IN MARMOTS (MARMOTA). Journal of Mammalogy, 2003, 84, 369-384.	1.3	84
17	Pleistocene Climate, Phylogeny, and Climate Envelope Models: An Integrative Approach to Better Understand Species' Response to Climate Change. PLoS ONE, 2011, 6, e28554.	2.5	84
18	Ecometrics: The traits that bind the past and present together. Integrative Zoology, 2010, 5, 88-101.	2.6	83

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19	History matters: ecometrics and integrative climate change biology. Proceedings of the Royal Society B: Biological Sciences, 2011, 278, 1131-1140.	2.6	81
20	Development with a bite. Nature, 2007, 449, 413-414.	27.8	73
21	On morphological clocks and paleophylogeography: towards a timescale for Sorex hybrid zones. Genetica, 2001, 112/113, 339-357.	1.1	70
22	High-Density Morphometric Analysis of Shape and Integration: The Good, the Bad, and the Not-Really-a-Problem. Integrative and Comparative Biology, 2019, 59, 669-683.	2.0	70
23	The skeleton ofGazinocyon vulpeculusgen. et comb. nov. and the cladistic relationships of Hyaenodontidae (Eutheria, Mammalia). Journal of Vertebrate Paleontology, 1996, 16, 303-319.	1.0	66
24	Development and phenotypic correlations: the evolution of tooth shape in Sorex araneus. Evolution & Development, 2005, 7, 29-41.	2.0	64
25	Adaptive Zones and the Pinniped Ankle: A Three-Dimensional Quantitative Analysis of Carnivoran Tarsal Evolution. , 2008, , 167-196.		63
26	Mammal disparity decreases during the Cretaceous angiosperm radiation. Proceedings of the Royal Society B: Biological Sciences, 2013, 280, 20132110.	2.6	62
27	Tiptoeing through the trophics: geographic variation in carnivoran locomotor ecomorphology in relation to environment. , 2010, , 374-410.		61
28	Fossils reveal the complex evolutionary history of the mammalian regionalized spine. Science, 2018, 361, 1249-1252.	12.6	60
29	Variability, selection, and constraints: development and evolution in viverravid (Carnivora,) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5	2.0	57
30	Variability in mammalian dentitions: size-related bias in the coefficient of variation. Biological Journal of the Linnean Society, 1998, 64, 83-99.	1.6	56
31	Evaluating the Significance of Paleophylogeographic Species Distribution Models in Reconstructing Quaternary Range-Shifts of Nearctic Chelonians. PLoS ONE, 2013, 8, e72855.	2.5	54
32	The Fossil Calibration Databaseâ€"A New Resource for Divergence Dating. Systematic Biology, 2015, 64, 853-859.	5.6	54
33	The Ecology of Morphology: The Ecometrics of Locomotion and Macroenvironment in North American Snakes. , 2012, , 117-146.		52
34	Shape, variance and integration during craniogenesis: contrasting marsupial and placental mammals. Journal of Evolutionary Biology, 2012, 25, 862-872.	1.7	52
35	No known hominin species matches the expected dental morphology of the last common ancestor of Neanderthals and modern humans. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18196-18201.	7.1	52
36	Do Developmental Constraints and High Integration Limit the Evolution of the Marsupial Oral Apparatus?. Integrative and Comparative Biology, 2016, 56, 404-415.	2.0	49

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37	Brain enlargement and dental reduction were not linked in hominin evolution. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 468-473.	7.1	45
38	From card catalogs to computers: databases in vertebrate paleontology. Journal of Vertebrate Paleontology, 2013, 33, 13-28.	1.0	41
39	Phylogenetic and environmental components of morphological variation: skull, mandible, and molar shape in marmots (Marmota, Rodentia). Evolution; International Journal of Organic Evolution, 2005, 59, 2460-72.	2.3	40
40	Dissociation of somatic growth from segmentation drives gigantism in snakes. Biology Letters, 2007, 3, 296-298.	2.3	39
41	Response to environmental factors and competition: skull, mandible and tooth shapes in Polish water shrews (Neomys, Soricidae, Mammalia). Journal of Zoological Systematics and Evolutionary Research, 2006, 44, 339-351.	1.4	38
42	Differential sexual dimorphism: size and shape in the cranium and pelvis of grey foxes (Urocyon). Biological Journal of the Linnean Society, 0, 96, 339-353.	1.6	37
43	Detecting biological distinctiveness using geometric morphometrics: an example case from the Vancouver Island marmot. Ethology Ecology and Evolution, 2009, 21, 209-223.	1.4	37
44	Paleophylogeography of Sorex araneus (Insectivora, Soricidae): molar shape as a morphological marker for fossil shrews. Mammalia, 2003, 67, 233-244.	0.7	34
45	Cross-validated Between Group PCA Scatterplots: A Solution to Spurious Group Separation?. Evolutionary Biology, 2020, 47, 85-95.	1.1	34
46	Extinction, Extirpation, and Exotics: Effects on the Correlation between Traits and Environment at the Continental Level. Annales Zoologici Fennici, 2014, 51, 209-226.	0.6	32
47	Morphological integration and modularity in the hyperkinetic feeding system of aquaticâ€foraging snakes. Evolution; International Journal of Organic Evolution, 2021, 75, 56-72.	2.3	32
48	Cladistics and the Fossil Record: The Uses of History. Annual Review of Earth and Planetary Sciences, 1994, 22, 63-89.	11.0	30
49	Evolutionary acceleration in the most endangered mammal of Canada: speciation and divergence in the Vancouver Island marmot (Rodentia, Sciuridae). Journal of Evolutionary Biology, 2007, 20, 1833-1846.	1.7	30
50	Mammal Associations in the Pleistocene of Britain: Implications of Ecological Niche Modelling and a Method for Reconstructing Palaeoclimate. Developments in Quaternary Sciences, 2011, , 279-304.	0.1	30
51	EARLIEST KNOWN CARNIVORAN AUDITORY BULLA AND SUPPORT FOR A RECENT ORIGIN OF CROWN-GROUP CARNIVORA (EUTHERIA, MAMMALIA). Palaeontology, 2006, 49, 1019-1027.	2.2	28
52	Influence of atrypid morphological shape on Devonian episkeletobiont assemblages from the lower Genshaw formation of the Traverse Group of Michigan: A geometric morphometric approach. Palaeogeography, Palaeoclimatology, Palaeoecology, 2011, 310, 427-441.	2.3	28
53	Cope's Rule. , 1998, 282, 47f-47.		28
54	Environmental, trophic, and ecological factors influencing bone collagen Î´2H. Geochimica Et Cosmochimica Acta, 2013, 111, 88-104.	3.9	27

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55	On the Occlusal Fit of Tribosphenic Molars: Are We Underestimating Species Diversity in the Mesozoic?. Journal of Mammalian Evolution, 2005, 12, 283-299.	1.8	26
56	Functional Tradeoffs Carry Phenotypes Across the Valley of the Shadow of Death. Integrative and Comparative Biology, 2020, 60, 1268-1282.	2.0	26
57	Phenotypic Variation across Chromosomal Hybrid Zones of the Common Shrew (Sorex araneus) Indicates Reduced Gene Flow. PLoS ONE, 2013, 8, e67455.	2.5	25
58	Community functional trait composition at the continental scale: the effects of nonâ€ecological processes. Ecography, 2017, 40, 651-663.	4.5	25
59	Biogeographic Analysis Using Geometric Morphometrics: Clines in Skull Size and Shape in a Widespread African Arboreal Monkey. Lecture Notes in Earth Sciences, 2010, , 191-217.	0.5	24
60	SELECTION IN A CYCLING POPULATION: DIFFERENTIAL RESPONSE AMONG SKELETAL TRAITS. Evolution; International Journal of Organic Evolution, 2006, 60, 1925-1935.	2.3	23
61	Including Fossils in Phylogenetic Climate Reconstructions: A Deep Time Perspective on the Climatic Niche Evolution and Diversification of Spiny Lizards (Sceloporus). American Naturalist, 2016, 188, 133-148.	2.1	23
62	On morphological clocks and paleophylogeography: Towards a timescale for Sorex hybrid zones. Contemporary Issues in Genetics and Evolution, 2001, , 339-357.	0.9	22
63	The influence of character correlations on phylogenetic analyses: a case study of the carnivoran cranium. , 0, , 141-164.		21
64	PATTERNS AND PROCESSES IN MORPHOSPACE: GEOMETRIC MORPHOMETRICS OF THREE-DIMENSIONAL OBJECTS. The Paleontological Society Papers, 2016, 22, 71-99.	0.6	20
65	Development and evolution occlude: Evolution of development in mammalian teeth. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 14019-14021.	7.1	19
66	SMALL VERTEBRATES FROM THE LATE CRETACEOUS AND EARLY TERTIARY OF THE NORTHEASTERN ARAL SEA REGION, KAZAKHSTAN. Journal of Paleontology, 2001, 75, 390-400.	0.8	18
67	Small vertebrates from the late Cretaceous and early Tertiary of the northeastern Aral Sea region, Kazakhstan. Journal of Paleontology, 2001, 75, 390-400.	0.8	18
68	Of mice and mutations: Phenotypic effects of the diabetic db/db and ob/ob mutations on the skull and teeth of mice. European Archives of Paediatric Dentistry: Official Journal of the European Academy of Paediatric Dentistry, 2008, 9, 37-40.	1.9	18
69	Ecometrics: A Trait-Based Approach to Paleoclimate and Paleoenvironmental Reconstruction. Vertebrate Paleobiology and Paleoanthropology, 2018, , 373-394.	0.5	18
70	On morphological clocks and paleophylogeography: towards a timescale for Sorex hybrid zones. Genetica, 2001, 112-113, 339-57.	1.1	16
71	Measuring Earth-Life Transitions: Ecometric Analysis of Functional Traits from Late Cenozoic Vertebrates. The Paleontological Society Papers, 2015, 21, 21-46.	0.6	15
72	Processes of ecometric patterning: modelling functional traits, environments, and clade dynamics in deep time. Biological Journal of the Linnean Society, 2016, 118, 39-63.	1.6	15

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73	Heritability: the link between development and the microevolution of molar tooth form. Historical Biology, 2018, 30, 53-63.	1.4	15
74	On the Misidentification of Species: Sampling Error in Primates and Other Mammals Using Geometric Morphometrics in More Than 4000 Individuals. Evolutionary Biology, 2021, 48, 190-220.	1.1	15
75	Maximum-likelihood identification of fossils: taxonomic identification of Quaternary marmots (Rodentia, Mammalia) and identification of vertebral position in the pipesnake Cylindrophis (Serpentes,) Tj ETQq1 1 0.784314 rgBT /Ove		15
76	The Evolution of Enamel Microstructure: How Important Is Amelogenin?. , 2000, 7, 23-42.		13
77	Gene networks, occlusal clocks, and functional patches: new understanding of pattern and process in the evolution of the dentition. Odontology / the Society of the Nippon Dental University, 2015, 103, 117-125.	1.9	12
78	ECOLOGICAL INTERACTIONS BETWEEN RHIPIDOMELLA (ORTHIDES, BRACHIOPODA) AND ITS ENDOSKELETOBIONTS AND PREDATORS FROM THE MIDDLE DEVONIAN DUNDEE FORMATION OF OHIO, UNITED STATES. Palaios, 2010, 25, 196-208.	1.3	11
79	Climate and morphological change on decadal scales: Multiannual variation in the common shrew Sorex araneus in northeast Russia. Acta Theriologica, 2010, 55, 193-202.	1.1	10
80	Stops making sense: translational trade-offs and stop codon reassignment. BMC Evolutionary Biology, 2011, 11, 227.	3.2	10
81	Stable isotopes of H, C and N in mice bone collagen as a reflection of isotopically controlled food and water intake. Isotopes in Environmental and Health Studies, 2019, 55, 129-149.	1.0	10
82	The evolution of relative trait size and shape: insights from the genitalia of dung beetles. Development Genes and Evolution, 2018, 228, 83-93.	0.9	9
83	Geometric Morphometric Tests for Phenotypic Divergence Between Chromosomal Races. , 2019, , 336-364.		9
84	A reevaluation of the Harrodsburg Crevice fauna (late Pleistocene of Indiana, U.S.A.) and the climatic implications of its mammals. Journal of Vertebrate Paleontology, 2013, 33, 410-420.	1.0	8
85	A Bayesian extension of phylogenetic generalized least squares: Incorporating uncertainty in the comparative study of trait relationships and evolutionary rates. Evolution; International Journal of Organic Evolution, 2020, 74, 311-325.	2.3	8
86	Marmot evolution and global change in the past 10 million years. , 0, , 246-276.		7
87	Fossil herbivores and crocodiles as paleoclimatic indicators of environmental shifts from Bed I and Bed II times of the Olduvai Gorge, Tanzania. Palaeogeography, Palaeoclimatology, Palaeoecology, 2018, 511, 550-557.	2.3	7
88	Spatial processes and evolutionary models: a critical review. Palaeontology, 2019, 62, 175-195.	2.2	7
89	Ecometrics and Neogene faunal turnover: the roles of cats and hindlimb morphology in the assembly of carnivoran communities in the New World. Geodiversitas, 2020, 42, 257.	0.8	7
90	Selection in a cycling population: differential response among skeletal traits. Evolution; International Journal of Organic Evolution, 2006, 60, 1925-35.	2.3	7

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91	Adaptive radiation of damselfishes (Perciformes, Pomacentridae) in the eastern Pacific. Marine Biology, 2015, 162, 2291-2303.	1.5	6
92	Taxonomic and evolutionary pattern revisions resulting from geometric morphometric analysis of Pennsylvanian Neognathodus conodonts, Illinois Basin. Paleobiology, 2018, 44, 660-683.	2.0	6
93	Introducing the Common Shrew. , 2019, , 19-67.		6
94	Is the middle cranial fossa a reliable predictor of temporal lobe volume in extant and fossil anthropoids?. American Journal of Physical Anthropology, 2020, 172, 698-713.	2.1	6
95	On Information Rank Deficiency in Phenotypic Covariance Matrices. Systematic Biology, 2022, 71, 810-822.	5.6	5
96	Climate and Competition Shape Species' Borders: A Study of the Panamint (Crotalus stephensi) and Speckled (Crotalus mitchellii) Rattlesnakes. ISRN Zoology, 2012, 2012, 1-6.	0.5	4
97	Measuring the evolution of body size in mammals. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 4027-4028.	7.1	4
98	Movement adds bite to the evolutionary morphology of mammalian teeth. BMC Biology, 2012, 10, 69.	3.8	4
99	Quantitative genetics provides predictive power for paleontological studies of morphological evolution. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9142-9144.	7.1	4
100	Morphology and Genetics of the Common Shrew: General Features. , 2019, , 68-111.		4
101	Detecting Mismatch in Functional Narratives of Animal Morphology: A Test Case with Fossils. Integrative and Comparative Biology, 2022, 62, 817-828.	2.0	4
102	Head et al. reply. Nature, 2009, 460, E4-E5.	27.8	3
103	Earth-Life Transitions: Paleobiology in the Context of Earth System Evolution. The Paleontological Society Papers, 2015, 21, xi-xii.	0.6	3
104	Land mammals form eight functionally and climatically distinct faunas in North America but only one in Europe. Journal of Biogeography, 2019, 46, 185-195.	3.0	3
105	Temporal lobe evolution in Javanese Homo erectus and African Homo ergaster: Inferences from the cranial base. Quaternary International, 2021, 603, 5-21.	1.5	3
106	Stuck between the teeth. Nature, 2013, 497, 325-326.	27.8	2
107	Postcrania and paleobiology of Patriofelis ulta (Mammalia, Oxyaenodonta) of the Bridgerian (lowerâ€“middle Eocene) of North America. Journal of Vertebrate Paleontology, 2021, 41, .	1.0	2
108	Evolutionary studies: Genetics, development, and palaeontology interlock. Heredity, 2006, 96, 206-207.	2.6	1

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109	Trait-based extinction catches the Red Queen napping during the Cambrian. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 16240-16241.	7.1	1
110	Milestones in Common Shrew Chromosomal Research. , 2019, , 1-18.		1
111	The role of dispersal, selection intensity, and extirpation risk in resilience to climate change: A traitâ€based modelling approach. Global Ecology and Biogeography, 2022, 31, 1184-1193.	5.8	1
112	SELECTION IN A CYCLING POPULATION: DIFFERENTIAL RESPONSE AMONG SKELETAL TRAITS. Evolution; International Journal of Organic Evolution, 2006, 60, 1925.	2.3	0
113	Marsupial responses to global aridification. Science, 2018, 362, 25-26.	12.6	0
114	Climate, Diversification and Refugia in the Common Shrew: Evidence from the Fossil Record. , 2019, , 407-454.		0