**SUPPORTING INFORMATION 2**

References for the matrices employed.

1. Abdala, F., 2007. Redescription of *Platycraniellus elegans* (Therapsida, Cynodontia) from the Lower Triassic of South Africa, and the cladistic relationships of eutheriodonts. *Palaeontology*, **50**, 591-618.
2. Aguilera, O. A., Riff, D. and Bocquentin-Villanueva, J., 2006. A new giant *Purussaurus* (Crocodyliformes, Alligatoridae) from the Upper Miocene Urumaco Formation, Venezuela. *Journal of Systematic Palaeontology*, **4**, 221-232.
3. Ahlberg, P. E. and Clack, J. A., 1998. Lower jaws, lower tetrapods - a review based on the Devonian genus *Acanthostega*. *Transactions of the Royal Society of Edinburgh: Earth Sciences*, **89**, 11-46.
4. Allain, R., Tykoski, R., Aquesbi, N., Jalil, N.-E., Monbaron, M., Russell, D. and Taquet, P., 2007. An abelisauroid (Dinosauria: Theropoda) from the Early Jurassic of the High Atlas Mountains, Morocco, and the radiation of ceratosaurs. *Journal of Vertebrate Paleontology*, **27**, 610-624.
5. Allain, R., Xaisanavong, T., Richir, P. and Khentavong, B., 2012. The first definitive Asian spinosaurid (Dinosauria: Theropoda) from the Early Cretaceous of Laos. *Naturwissenschaften*, **99**, 369-377.
6. Andrade, M. D., Edmonds, R., Benton, M. J. and Schouten R., 2011. A new Berriasian species of *Goniopholis* (Mesoeucrocodylia, Neosuchia) from England, and a review of the genus. *Zoological Journal of the Linnean Society*, **163**, S66-S108.
7. Apesteguia, S., Gomez, R. O. and Rougier, G. W., 2012. A basal sphenodontian (Lepidosauria) from the Jurassic of Patagonia: new insights on the phylogeny and biogeography of Gondwanan rhynchocephalians. *Zoological Journal of the Linnean Society*, **166**, 342-360.
8. Archibald, J. D., Averianov, A. O. and Ekdale, E. G., 2001. Late Cretaceous relatives of rabbits, rodents, and other extant eutherian mammals. *Nature*, **414**, 62-65.
9. Arratia, G., 1996. Reassessment of the phylogenetic relationships of certain Jurassic teleosts and their implications on teleostean phylogeny. *In* G. Arratia and G. Viohl (eds.) Mesozoic Fishes - Systematics and Paleoecology. Verlag Dr. Friedrich Pfeil, Munchen, pp. 219-242.
10. Asher, R. J., 1999. A morphological basis for assessing the phylogeny of the "Tenrecoidea" (Mammalia, Lipotyphla). *Cladistics*, **15**, 231-252.
11. Averianov A.O. and Archibald J.D., 2013. Variation and taxonomy of Asiamerican eutherian mammal *Paranyctoides*. *Canadian Journal of Earth Sciences*. 50(9): 895-903.
12. Baron, M. G., Norman, D. B. and Barrett, P. M., 2017. A new hypothesis of dinosaur relationships and early dinosaur evolution. *Nature*, **543**, 501-506.
13. Barrionuevo, J. S. 2017. Frogs at the summits: phylogeny of the Andean frogs of the genus Telmatobius(Anura, Telmatobiidae) based on phenotypic characters. *Cladistics*, **33**: 41-68. doi:10.1111/cla.12158
14. Bell, G. L., 1997. A phylogenetic revision of North American and Adriatic Mosasauroidea. *In* J. M. Callaway and E. L. Nicholls (eds.) Ancient Marine Reptiles. Academic Press, San Diego, pp. 293-332.
15. Benson, R. B. J., 2010. A description of *Megalosaurus bucklandii* (Dinosauria: Theropoda) from the Bathonian of the UK and the relationships of Middle Jurassic theropods. *Zoological Journal of the Linnean Society*, **158**, 882-935.
16. Benson, R. B. J., Evans, M. and Druckenmiller, P. S., 2012. High diversity, low disparity and small body size in plesiosaurs (Reptilia, Sauropterygia) from the Triassic-Jurassic boundary. *PLoS One*, **7**, e31838.
17. Benton, M. J., 2004. Origin and relationships of Dinosauria. *In* Weishampel, D. B. *et al.* (eds.) The Dinosauria (Second Edition). University of California Press, Berkeley, pp. 7-19.
18. Benton, M. J. and Clark, J. M., 1988. Archosaur phylogeny and the relationships of the Crocodylia. *In* Benton, M. J. (ed.) The Phylogeny and Classification of the Tetrapods, Volume 1: Amphibians, Reptiles, Birds. Clarendon Press, Oxford, pp. 295-338.
19. Bourdon, E., 2005. Osteological evidence for sister group relationship between pseudo-toothed birds (Aves: Odontopterygiformes) and waterfowls (Anseriformes). *Naturwissenschaften*, **92**(12), 586-591.
20. Brazeau, M. D., 2009. The braincase and jaws of a Devonian 'acanthodian' and modern gnathostome origins. *Nature*, **457**, 305-308.
21. Brazeau M.D. and de Winter V. 2015. The hyoid arch and braincase anatomy of *Acanthodes* support chondrichthyan affinity of ‘acanthodians’. *Proceedings of the Royal Society B.* DOI:10.1098/rspb.2015.2210.
22. Brochu, C. A., 1997. Morphology, fossils, divergence timing, and the phylogenetic relationships of Gavialis. Systematic Biology, 46, 479-522.
23. Brunke, A. J. and Solodovnikov, A. 2013. *Alesiella* gen.n. and a newly discovered relict lineage of Staphylinini (Coleoptera: Staphylinidae). *Systematic Entomology*, **38**: 689-707. doi:10.1111/syen.12021
24. Brusatte, S. L., Benton, M. J., Ruta, M. and Lloyd, G. T., 2008. Superiority, competition, and opportunism in the evolutionary radiation of dinosaurs. Science, 321, 1485-1488.
25. Brusatte, S. L., Benton, M. J., Desojo, J. B. and Langer, M. C., 2010. The higher-level phylogeny of Archosauria (Tetrapoda: Diapsida). *Journal of Systematic Palaeontology*, **8**, 3-47.
26. Butler, R. J., Smith, R. M. H. and Norman, D. B., 2007. A primitive ornithischian dinosaur from the Late Triassic of South Africa, and the early evolution and diversification of Ornithischia. *Proceedings of the Royal Society B-Biological Sciences*, **274**, 2041-2046.
27. Butler R.J., Sullivan C., Ezcurra M.D., Liu J., Lecuona A. & Sookias, R.B. 2014. New clade of enigmatic early archosaurs yields insights into early pseudosuchian phylogeny and the biogeography of the archosaur radiation. *BMC Evolutionary Biology.* 14:128. DOI:10.1186/1471-2148-14-128.
28. Carr, T. D. and Williamson, T. E., 2010. *Bistahieversor sealeyi*, gen. et sp. nov., a new tyrannosauroid from New Mexico and the origin of deep snouts in Tyrannosauroidea. *Journal of Vertebrate Paleontology*, **30**, 1-16.
29. Carrano, M. T., Benson, R. B. J. and Sampson, S. D., 2012. The phylogeny of Tetanurae (Dinosauria: Theropoda). *Journal of Systematic Palaeontology*, **10**, 211-300.
30. Carrano, M. T., Sampson, S. D. and Forster, C. A., 2002. The osteology of *Masiakasaurus knopfleri*, a small abelisauroid (Dinosauria: Theropoda) from the Late Cretaceous of Madagascar. *Journal of Vertebrate Paleontology*, **22**, 510-534.
31. Carroll, R. L., 2007. The Palaeozoic ancestry of salamanders, frogs and caecilians. *Zoological Journal of the Linnean Society*, **150**, 1-140.
32. Carter, J. G., Campbell, D. C. and Campbell, M. R., 2000. Cladistic perspectives on early bivalve evolution. *Geological Society Special Publications*, **177**, 47-79.
33. Cau, A. and Arduini, P., 2008. *Enantiophoenix electrophyla* gen. et sp. nov. (Aves, Enantiornithes) from the Upper Cretaceous (Cenomanian) of Lebanon and its phylogenetic relationships. *Atti della Societa Italiana di Scienze Naturali e del Museo Civico di Storia Naturale in Milano*, **149**, 293-324.
34. Chiappe, L. M., 2001. Phylogenetic relationships among basal birds. *In* J. Gauthier and L. F. Gall (eds.) New Perspectives on the Origin and Early Evolution of Birds. Peabody Museum Special Publication, New Haven, pp. 125-142.
35. Choiniere, J. N., Clark, J. M., Forster, C. A. and Xu, X., 2010. A basal coelurosaur (Dinosauri: Theropoda) from the Late Jurassic (Oxfordian) of the Shishugou Formation in Wucaiwan, People's Republic of China. *Journal of Vertebrate Paleontology*, **30**, 1773-1796.
36. Clack, J. A. and Klembara, J., 2009. An articulated specimen of Chroniosaurus dongusensis and the morphology and relationships of the choniosuchids. Special Papers in Palaeontology, 81, 15-42.
37. Conrad, J. L. 2008. Phylogeny and systematics of Squamata (Reptilia) based on morphology. *Bulletin of the American Museum of Natural History*, **310**: 1-182. doi: 10.1206/310.1
38. Curry Rogers, K. A., 2005. Titanosauria: a phylogenetic overview. *In* K. A. Curry Rogers and J. A. Wilson (eds.) The Sauropods: Evolution and Palaeobiology. University of California Press, Berkeley, pp. 50-103.
39. Damiani, R., Vasconcelos, C., Renaut, A., Hancox, J. and Yates, A., 2007. *Dolichuranus primaevus* (Therapisda: Anomodontia) from the Middle Triassic of Namibia and its phylogenetic relationships. *Palaeontology*, **50**, 1531-1546.
40. Dávalos, L. M., Velazco, P. M., Warsi, O. M., Smits, P. D. and Simmons, N. B., 2014. Integrating incomplete fossils by isolating conflicting signal in saturated and non-independent morphological characters. *Systematic Biology*, **63**, 582-600.
41. Davis, S. P., Finarelli, J. A. and Coates, M. I., 2012. *Acanthodes* and shark-like conditions in the last common ancestor of modern gnathostomes. *Nature*, **486**, 247-250.
42. Doyle, J. A. and Donoghue, M. J., 1986. Seed plant phylogeny and the origin of angiosperms: an experimental cladistic approach. *The Botanical Review*, **52**, 321-431.
43. Dyke, G. J. and Gulas, B. E., 2002. The fossil galliform bird *Paraortygoides* from the Lower Eocene of the United Kingdom.*American Museum Novitates*, **3360**, 1-14.
44. Dyke, G. J., Gulas, B. E. and Crowe, T. M., 2003. Suprageneric relationships of galliform birds (Aves, Galliformes): a cladistic analysis of morphological characters. *Zoological Journal of the Linnean Society*, **137**, 227-244.
45. Ericson, P. G. P., 1997. Systematic relationships of the Palaeogene family Presbyornithidae (Aves: Anseriformes). *Zoological Journal of the Linnean Society*, **121**, 429-483.
46. Evans, S. E., 1988. The early history and relationships of the Diapsida. *In* M. J. Benton (ed.) The Phylogeny and Classification of the Tetrapods, Volume 1: Amphibians, Reptiles, Birds. Clarendon Press, Oxford, pp. 221-260.
47. Ezcurra, M. D., 2017. A New Early Coelophysoid Neotheropod from the Late Triassic of Northwestern Argentina. *Ameghiniana*, **54**, 506-538.
48. Ezcurra, M. D. and Novas, F. E., 2007. Phylogenetic relationships of the Triassic theropod *Zupaysaurus rougieri* from NW Argentina.*Historical Biology*, **19**, 35-72.
49. Ezcurra, M. D., Lecuona, A. and Martinelli, A., 2010. A new basal archosauriform diapsid from the Lower Triassic of Argentina. *Journal of Vertebrate Paleontology*, **30**, 1433-1450.
50. Fišer, C., Sket, B. and Trontelj, P., 2008. A phylogenetic perspective on 160 years of troubled taxonomy of Niphargus (Crustacea: Amphipoda). *Zoologica Scripta*, **37**, 665-680.
51. Flores, D. A., 2009. Phylogenetic analyses of postcranial skeletal morphology in didelphid marsupials. *Bulletin of the American Museum of Natural History*, **320**, 1-81.
52. Forey, P. L., 1998. *History of the Coelacanth Fishes*. Chapman & Hall, London, pp. 419.
53. Frank-Hoeflich, K., Silveira, L. F., Estudillo-Lopez, J., Garcia-Koch, A. M., Ongay-Larios, L. and Pinero, D., 2007. Increased taxon and character sampling reveals novel intergeneric relationships in the Cracidae (Aves: Galliformes). *Journal of Zoological Systematics and Evolutionary Research*, **45**, 242-254.
54. Frobisch, J., 2007. The cranial anatomy of *Kombuisia frerensis* Hotton (Synapsida, Dicynodontia) and a new phylogeny of anomodont therapsids. *Zoological Journal of the Linnean Society*, **150**, 117-144.
55. Froehlich, D. J., 2002. Quo vadis eohippus? The systematics and taxonomy of the early Eocene equids (Perissodactyla). *Zoological Journal of the Linnean Society*, **134**, 141-256.
56. Gallina, P. A. and Apesteguia, S., 2011. Cranial anatomy and phylogenetic position of the titanosaurian sauropod *Bonitasaura salgadoi*. *Acta Palaeontologica Polonica*, **56**, 45-60.
57. Galton, P. M. and Upchurch, P., 2004. Prosauropoda. *In* Weishampel, D. B. *et al.* (eds.) The Dinosauria (Second Edition). University of California Press, Berkeley, pp. 232-258.
58. Garwood, R. J. and Dunlop, J., 2014. Three-dimensional reconstruction and the phylogeny of extinct chelicerate orders. *PeerJ*, **2**, e641.
59. Gaubert, P., Wozencraft, W. C., Cordeiro-Estrela, P. and Veron, G., 2005. Mosaics of convergences and noise in morphological phylogenies: what's in a viverrid-like carnivoran? *Systematic Biology*, **54**, 865-894.
60. Gauthier, J., Kluge, A. G. and Rowe, T. (1988). Amniote phylogeny and the importance of fossils. *Cladistics*, **4**(2), 105-209.
61. Gentry, A. W. and Hooker, J. J., 1988. The phylogeny of the Artiodactyla. *In* M. J. Benton (ed.) The Phylogeny and Classification of the Tetrapods, Volume 2: Mammals. Clarendon Press, Oxford, pp. 235-272.
62. Gerlach, J., 2001. Tortoise phylogeny and the “Geochelone” problem. Phelsuma, 9 (Supplement A), 1-24.
63. Gonçalves, R. B. 2017. Phylogeny and new species of the Neotropical bee genus Paroxystoglossa Moure (Hymenoptera, Apoidea). *Revista Brasileira de Entomologia*, **61**(2), 178-191. doi: 10.1016/j.rbe.2017.03.001.
64. Gonzalez Riga, B. J. and David, L. O. (2014). A new titanosaur (Dinosauria, Sauropoda) from the Upper Cretaceous (Cerro Lisandro Formation) of Mendoza Province, Argentina. *Ameghiniana*, **51**(1), 3-25.
65. Gulas-Wroblewski, B. E. and Wroblewski, A. F.-J., 2003. A crown-group galliform bird from the Middle Eocene Bridger Formation of Wyoming. *Palaeontology*, **46**, 1269-1280.
66. Hand, S. J. and Kirsch, J. A. W., 2003. *Archerops*, a new annectent hipposiderid genus (Mammalia: Microchiroptera) from the Australian Miocene. *Journal of Paleontology*, **77**, 1139-1151.
67. Hill, R. V., 2005. Integration of morphological data sets for phylogenetic analysis of Amniota: the importance of integumentary characters and increased taxonomic sampling. *Systematic Biology*, **54**, 530-547.
68. Hill, R. V., Witmer, L. M. and Norell, M. A., 2003. A new specimen of *Pinacosaurus grangeri* (Dinosauria: Ornithischia) from the Late Cretaceous of Mongolia: ontogeny and phylogeny of ankylosaurs. *American Museum Novitates*, **3395**, 1-29.
69. Holtz, T. R., 1998. A new phylogeny of carnivorous dinosaurs. *Gaia*, **15**, 5-61.
70. Hone, D. W. E. and Benton, M. J., 2008. Contrasting supertree and total-evidence methods: the origin of the pterosaurs. *Zitteliana*, **B28**, 35-60.
71. Hopson, J. A. and Kitching, J. W., 2001. A probainognathian cynodont from South Africa and the phylogeny of nonmammalian cynodonts. *Bulletin of the Museum of Comparative Zoology*, **156**, 5-35.
72. Hutchinson, J. R., 2002. The evolution of hindlimb tendons and muscles on the line to crown-group birds. *Comparative Biochemistry and Physiology Part A*, **133**, 1051-1086.
73. Huttenlocker, A., 2009. An investigation into the cladistic relationships and monophyly of therocephalian therapsids (Amniota: Synapsida). *Zoological Journal of the Linnean Society*, **157**, 865-891.
74. Irmis, R. B., Nesbitt, S. J., Padian, K., Smith, N. D., Turner, A. H., Woody, D. and Downs, A., 2007. A Late Triassic dinosauromorph assemblage from New Mexico and the rise of dinosaurs. *Science*, **317**, 358-361.
75. Jalil, N.-E., 1997. A new prolacertiform diapsid from the Triassic of North Africa and the interrelationships of the Prolacertiformes. *Journal of Vertebrate Paleontology*, **17**, 506-525.
76. Janoo, A., 2000. Rooting the Dodo *Raphus cucullatus* Linnaeus 1758 and the Solitaire *Pezophaps solitaria* Gmelin 1789 within the Ornithurae: a cladistic reappraisal. *Ostrich: Journal of African Ornithology*, **71**, 323-329.
77. Janvier, P., 1996. The dawn of the vertebrates: characters versus common ascent in the rise of current vertebrate phylogenies. *Palaeontology*, **39**, 259-287.
78. Jiménez-Huidobro, P., and Caldwell, M. W., 2016. Reassessment and reassignment of the early Maastrichtian mosasaur Hainosaurus bernardi Dollo, 1885, to Tylosaurus Marsh, 1872. *Journal of Vertebrate Paleontology*, **36**, e1096275.
79. Joyce, W. G., 2007. Phylogenetic relationships of Mesozoic turtles. *Bulletin of the Peabody Museum of Natural History*, **48**, 3-102.
80. Joyce, W. G. and Bell, C. J., 2004. A review of the comparative morphology of extant testudinoid turtles (Reptilia: Testudines). *Asiatic Herpetological Research*, **10**, 53-109.
81. Joyce, W. G. and Lyson, T. R., 2010. A neglected lineage of North American turtles fills a major gap in the fossil record.*Palaeontology*, **53**, 241-248.
82. Juul, L. 1994. The phylogeny of basal archosaurs. *Palaeontologica Africana*, **31**, 1–31.
83. Karasawa, H. and Schweitzer, C. E., 2006. A new classification of the Xanthoidea *sensu lato* (Crustacea: Decapoda: Brachyura) based on phylogenetic analysis and traditional systematics and evaluation of all fossil Xanthoidea *sensu lato*. *Contributions to Zoology*, **75**, 23-73.
84. Kroh, A. and Smith, A. B., 2010. The phylogeny and classification of post-Palaeozoic echinoids. *Journal of Systematic Palaeontology*, **8**, 147-212.
85. Laloy, F., Rage, J.-C., Evans, S. E., Boistel, R., Lenoir, N. and Laurin, M., 2013. A re-interpretation of the Eocene anuran *Thaumastosaurus* based on microCT examination of a 'mummified' specimen. *PLOS ONE*, **8**, e74874.
86. Lamsdell, J. C., 2015. Horseshoe crab phylogeny and independent colonizations of fresh water: ecological invasion as a driver for morphological innovation. *Palaeontology*, **59**(2), 181-194. [In Supplementary Materials]
87. Lang, E. and Mahammed, F., 2010. New anatomical data and phylogenetic relationships of *Chebsaurus algeriensis* (Dinosauria, Sauropoda) from the Middle Jurassic of Algeria. *Historical Biology*, **22**, 142-164.
88. Larsson, H. C. E. and Sues, H.-D., 2007. Cranial osteology and phylogenetic relationships of *Hamadasuchus rebouli*(Crocodyliformes: Mesoeucrocodylia) from the Cretaceous of Morocco. *Zoological Journal of the Linnean Society*, **149**, 533-567.
89. Lee, M. S. Y., 1998. Convergent evolution and character correlation in burrowing reptiles: towards a resolution of squamate relationships. *Biological Journal of the Linnean Society*, **65**, 369-453.
90. Lieberman, B. S., 1998. Cladistic analysis of the Early Cambrian olenelloid trilobites. *Journal of Paleontology*, **72**, 59-78.
91. Lieberman, B. S. and Kloc, G. J., 1997. Evolutionary and biogeographic patterns in the Asteropyginae (Trilobita, Devonian) Delo, 1935. *Bulletin of the American Museum of Natural History*, **232**, 1-127.
92. Liu, J. and Abdala, F., 2014. Phylogeny and taxonomy of the Traversodontidae. *In* Kammerer, C. F., Angielczyk, K. D. and Frobisch, J. (ed.) Early Evolutionary History of the Synapsida. Springer Science, Dordrecht, pp. 255-279.
93. Liu, J. and Olsen, P., 2010. The phylogenetic relationships of Eucynodontia (Amniota: Synapsida). *Journal of Mammalian Evolution*, **17**, 151-176.
94. Liu, J., Rubidge, B. and Li, J.-L., 2009. New basal synapsid supports Laurasian origin for therapsids. *Acta Palaeontologica Polonica*, **54**, 393-400.
95. Longrich, N. R. and Currie, P. J., 2009. A microraptorine (Dinosauria-Dromaeosauridae) from the Late Cretaceous of North America. *Proceedings of the National Academy of Sciences, USA*, **106**, 5002-5007.
96. Longrich, N. R., Sankey, J. and Tanke, D., 2010. *Texacephale langstoni*, a new genus of pachycephalosaurid (Dinosauria: Ornithischia) from the upper Campanian Aguja Formation, southern Texas, USA. *Cretaceous Research*, **31**, 274-284.
97. Lund, R., Poplin, C. and McCarthy, K., 1995. Preliminary analysis of the interrelationships of some Paleozoic actinopterygians.*Geobios (MS)*, **19**, 215-220.
98. Manegold, A. and Topfer, T., 2012. The systematic position of *Hemicircus* and the stepwise evolution of adaptations for drilling, tapping and climbing up in true woodpeckers (Picinae, Picidae). *Journal of Zoological Systematics and Evolutionary Research*, **51**, 72-82.
99. Mannion, P. D., Upchurch, P., Barnes, R. N. and Mateus, O., 2013. Osteology of the Late Jurassic Portuguese sauropod dinosaur *Lusotitan atalaiensis* (Macronaria) and the evolutionary history of basal titanosauriforms. *Zoological Journal of the Linnean Society*, **168**, 98-206.
100. Martinez, R. N., Sereno, P. C., Alcober, O. A., Colombi, C. E., Renne, P. R., Montanez, I. P. and Currie, B. S., 2011. A basal dinosaur from the dawn of the dinosaur era in southwestern Pangaea. *Science*, **331**, 206-210.
101. Maryanska, T., Osmolska, H. and Wolsan, M., 2002. Avialan status for Oviraptorosauria. *Acta Palaeontologica Polonica*, **47**, 97-116.
102. Mayr, G., 2011. Well-preserved new skeleton of the Middle Eocene *Messelastur* substantiates sister group relationship between Messelasturidae and Halcyornithidae (Aves, ?Pan-Psittaciformes). *Journal of Systematic Palaeontology*, **9**, 159-171.
103. Mayr, G., and Clarke, J., 2003. The deep divergences of neornithine birds: a phylogenetic analysis of morphological characters. *Cladistics*, **19**, 527-553.
104. Mayr, G. and Smith, T., 2012. Phylogenetic affinities and taxonomy of the Oligocene Diomedeoididae, and the basal divergences amongst extant procellariiform birds. *Zoological Journal of the Linnean Society*, **166**, 854-875.
105. Mayr, G., Manegold, A. and Johansson, U. S., 2003. Monophyletic groups within 'higher land birds' - comparison of morphological and molecular data. *Journal of Zoological Systematics and Evolutionary Research*, **41**, 233-248.
106. McDonald, A. T., Wolfe, D. G. and Kirkland, J. I., 2010a. A new basal hadrosauroid (Dinosauria: Ornithopoda) from the Turonian of New Mexico. *Journal of Vertbrate Paleontology*, **30**, 799-812.
107. McDonald, A. T., Barrett, P. M. and Chapman, S. D., 2010b. A new basal iguanodont (Dinosauria: Ornithischia) from the Wealden (Lower Cretaceous) of England. *Zootaxa*, **2569**, 1-43.
108. McEachran, J. D., Dunn, K. A. and Miyake, T., 1996. Interrelationships of the batoid fishes (Chondrichthyes: Batoidea). *In* M. L. J. Stiassny, L. R. Parenti and G. D. Johnson (eds.) Interrelationships of Fishes. Academic Press, San Diego, pp. 63-84.
109. Mirande, J. M. 2018. Morphology, molecules and the phylogeny of Characidae (Teleostei, Characiformes). *Cladistics*. doi:10.1111/cla.12345.
110. Montefeltro, F. C., Larsson, H. C. E., de Franca, M. A. G. and Langer, M. C., 2013. A new neosuchian with Asian affinities from the Jurassic of northeastern Brazil. *Naturwissenschaften*, **100**, 835-841.
111. Mueller-Towe, I. J., 2005. Phylogenetic relationships of the Thalattosuchia. *Zitteliana*, **A45**, 211-213.
112. Muizon, C. D., Billet, G., Argot, C., Ladevèze, S., and Goussard, F., 2015. Alcidedorbignya inopinata, a basal pantodont (Placentalia, Mammalia) from the early Palaeocene of Bolivia: anatomy, phylogeny and palaeobiology. *Geodiversitas*, **37**, 397-634.
113. Muller, J. and Tsuji, L. A., 2007. Impedance-matching hearing in Paleozoic reptiles: evidence of advanced sensory perception at an early stage of amniote evolution. *PLOS One*, **2**, e889.
114. Murakami, M., Shimada, C., Hikida, Y., Soeda, Y. and Hirano, H., 2014. *Eodelphis kabatensis*, a new name for the oldest true dolphin *Stenella kabatensis* Horikawa, 1977 (Cetacea, Odontoceti, Delphinidae), from the upper Miocene of Japan, and the phylogeny and paleobiogeography of Delphinoidea. *Journal of Vertebrate Paleontology*, **34**, 491-511.
115. Narvaez, I., Brochu, C. A., Escaso, F., Perez-Garcia, A. and Ortega, F., 2015. New crocodyliforms from southwestern Europe and definition of a diverse clade of European Late Cretaceous basal eusuchians. *PLOS One*, **10**, e0140679.
116. Nesbitt, S. J., Smith, N. D., Irmis, R. B., Turner, A. H., Downs, A. and Norell, M. A., 2009. A complete skeleton of a Late Triassic saurischian and the early evolution of dinosaurs. *Science*, **326**, 1530-1533.
117. Perala, J., 2001. The genus *Testudo* (Testudines: Testudinidae): phylogenetic inferences. *Chelonii*, **3**, 32-39.
118. Pérez, D. E. 2018. Phylogenetic relationships of the family Carditidae (Bivalvia: Archiheterodonta). *Journal of Systematic Palaeontology* (In Press).
119. Pine, R. H., Timm, R. M., and Weksler, M. 2012. A newly recognized clade of trans-Andean Oryzomyini (Rodentia: Cricetidae), with description of a new genus. *Journal of Mammalogy*, **93**(3), 851-870. doi: 10.1644/11-MAMM-A-012.1.
120. Pol, D. and Rauhut, O. W. M., 2012. A Middle Jurassic abelisaurid from Patagonia and the early diversification of theropod dinosaurs. *Proceedings of the Royal Society of London B*, **279**, 3170-3175.
121. Poropat, S. F., Mannion, P. D., Upchurch, P., Hocknull, S. A., Kear, B. P., Kundrat, M., Tischler, T. R., Sloan, T., Sinapius, G. H. K., Elliott, J. A. and Elliott, D. A., 2016. New Australian sauropods shed light on Cretaceous dinosaur palaeobiogeography. *Scientific Reports*, **6**, 34467.
122. Prieto-Marquez, A., 2010. Global phylogeny of Hadrosauridae (Dinosauria: Ornithopoda) using parsimony and Bayesian methods.*Zoological Journal of the Linnean Society*, **159**, 435-502.
123. Prieto-Marquez, A. and Wagner, J. R., 2009. *Pararhabdodon isonensis* and *Tsintaosaurus spinorhinus*: a new clade of lambeosaurine hadrosaurids from Eurasia. *Cretaceous Research*, **30**, 1238-1246.
124. Rauhut, O. W. M., Remes, K., Fechner, R., Cladera, G. and Puerta, P., 2005. Discovery of a short-necked sauropod dinosaur from the Late Jurassic period of Patagonia. *Nature*, **435**, 670-672.
125. Rieppel, O., 1993. Euryapsid relationships: a preliminary analysis. *Neues Jahrbuch fur Geologie und Palaontologie - Abhandlungen*, **188**, 241-264.
126. Rodman, J. E., Oliver, M. K., Nakamura, R. R., McClammer, J. U. and Bledsoe, A. H., 1984. A taxonomic analysis and revised classification of Centrospermae. *Systematic Botany*, **9**, 297-323.
127. Rota-Stabelli, O., Campbell, L., Brinkmann, H., Edgecombe, G. D., Longhorn, S. J., Peterson, K. J., ... and Telford, M. J. 2010. A congruent solution to arthropod phylogeny: phylogenomics, microRNAs and morphology support monophyletic Mandibulata. *Proceedings of the Royal Society of London B: Biological Sciences*, rspb20100590.
128. Santini, F. and Tyler, J. C., 2003. A phylogeny of the families of fossil and extant tetraodontiform fishes (Acanthomorpha, Tetraodontiformes), Upper Cretaceous to Recent. *Zoological Journal of the Linnean Society*, **139**, 565-617.
129. Senter, P., Barsbold, R., Britt, B. B. and Burnham, D. A., 2004. Systematics and evolution of Dromaeosauridae (Dinosauria, Theropoda). *Bulletin of Gunma Museum of Natural History*, **8**, 1-20.
130. Sidor, C. A., 2003. Evolutionary trends and the origin of the mammalian lower jaw. *Paleobiology*, **29**, 605-640.
131. Sterli, J., Pol, D. and Laurin, M., 2013. Incorporating phylogenetic uncertainty on phylogeny-based palaeontological dating and the timing of turtle diversification. *Cladistics*, **29**, 233-246.
132. Sues, H.-D. and Averianov, A., 2009. A new basal hadrosauroid dinosaur from the Late Cretaceous of Uzbekistan and the early radiation of duck-billed dinosaurs. *Proceedings of the Royal Society of London: B*, **276**, 2549-2555.
133. Swartz, B., 2012. Marine stem-tetrapod from the Devonian of western North America. *PLoS One*, **7**, e33683.
134. Sweetman, S. C., Pedreira-Segade, U. and Vidovic, S. U., 2015. A new bernissartiid crocodyliform from the Lower Cretaceous Wessex Formation (Wealden Group, Barremian) of the Isle of Wight, southern England. *Acta Palaeontologica Polonica*, **60**, 257-268.
135. Tarasov, S., Vaz-de-Mello, F. Z., Krell, F. T., and Dimitrov, D. 2016. A review and phylogeny of Scarabaeine dung beetle fossils (Coleoptera: Scarabaeidae: Scarabaeinae), with the description of two Canthochilum species from Dominican amber. *PeerJ*, **4**, e1988. doi: 10.7717/peerj.1988.
136. Toljagic, O. and Butler, R. J., 2013. Triassic-Jurassic mass extinction as trigger for the Mesozoic radiation of crocodylomorphs. *Biology Letters*, **9**, 20130095.
137. Tsuji, L. A., 2013. Anatomy, cranial ontogeny and phylogenetic relationships of the pareiasaur Deltavjatia rossicus from the Late Permian of central Russia. *Earth and Environmental Science Transactions of the Royal Society of Edinburgh*, **104**, 81-122.
138. Turner, A. H., Makovicky, P. J. and Norell, M. A., 2012. A review of Dromaeosaurid systematics and paravian phylogeny. *Bulletin of the American Museum of Natural History*, **371**, 1-206.
139. Unwin, D. M., 2003. On the phylogeny and evolutionary history of pterosaurs. *Geological Society of London Special Publications*, **217**, 139-190.
140. Upchurch, P., Barrett, P. M. and Dodson, P., 2004. Sauropoda. *In* Weishampel, D. B. *et al.* (eds.) The Dinosauria (Second Edition). University of California Press, Berkeley, pp. 259-322.
141. Upchurch, P., Barrett, P. M. and Galton, P. M., 2007. A phylogenetic analysis of basal sauropodomorph relationships: implications for the origin of sauropod dinosaurs. *Special Papers in Palaeontology*, **77**, 57-90.
142. Vlachos, E. 2018. A Review of the Fossil Record of North American Turtles of the Clade Pan-Testudinoidea. *Bulletin of the Peabody Museum of Natural History*, **59**(1), 3-94. doi: 10.3374/014.058.0201.
143. Voss, R. S. and Jansa, S. A., 2003. Phylogenetic studies on didelphid marsupials II. Nonmolecular data and new IRBP sequences: separate and combined analyses of didelphine relationships with denser taxon sampling. *Bulletin of the American Museum of Natural History*, **276**, 1-82.
144. Wang, X.-L., Kellner, A. W. A., Zhou, Z.-H. and Campos, D. A., 2005. Pterosaur diversity and faunal turnover in Cretaceous terrestrial ecosystems in China. *Nature*, **437**, 875-879.
145. Wang, X.-L., Kellner, A. W. A., Jiang, S.-X. and Cheng, X., 2012. New toothed flying reptile from Asia: close similarities between early Cretaceous pterosaur faunas from China and Brazil. *Naturwissenschaften*, **99**, 249-257.
146. Wetterer, A. L., Rockman, M. V., and Simmons, N. B. 2000. Phylogeny of phyllostomid bats (Mammalia: Chiroptera): data from diverse morphological systems, sex chromosomes, and restriction sites. *Bulletin of the American Museum of Natural history*, **248**, 1-200. doi: 10.1206/0003-0090(2000)248<0001:POPBMC>2.0.CO;2.
147. Wilkinson, L. E., Young, M. T. and Benton, M. J., 2008. A new metriorhynchid crocodilian (Mesoeucrocodylia: Thalattosuchia) from the Kimmeridgian (Upper Jurassic) of Wiltshire, UK. *Palaeontology*, **51**, 1307-1333.
148. Williamson, T. E., Brusatte, S. L., Carr, T. D., Weil, A. and Standhardt, B. R., 2012. The phylogeny and evolution of Cretaceous-Palaeogene metatherians: cladistic analysis and description of new early Palaeocene specimens from the Nacimiento Formation, New Mexico. *Journal of Systematic Palaeontology*, **10**, 625-651.
149. Wilson, J. A., 2002. Sauropod dinosaur phylogeny: critique and cladistic analysis. *Zoological Journal of the Linnean Society*, **136**, 217-276.
150. Wilson, M. V. H. and Murray, A. M., 2008. Osteoglossomorpha: phylogeny, biogeography, and fossil record and the significance of key African and Chinese fossil taxa. *Geological Society of London Special Publications*, **295**, 185-219.
151. Wilson, L. A. B., Hand, S. J., López-Aguirre, C., Archer, M., Black, K. H., Beck, R. M. D., Armstrong, K. N. and Wroe, S. 2016. Cranial shape variation and phylogenetic relationships of extinct and extant Old World leaf-nosed bats. *Alcheringa: An Australasian Journal of Palaeontology*, **40**, 509–524. doi:10.1080/03115518.2016.1196434.
152. Worthy, T. H., Hand, S. J., Nguyen, J. M. T., Tennyson, A. J. D., Worthy, J. P., Scofield, R. P., Boles, W. E. and Archer, M., 2010. Biogeographical and phylogenetic implications of an Early Miocene wren (Aves: Passeriformes: Acanthisittidae) from New Zealand. *Journal of Vertebrate Paleontology*, **30**, 479-498.
153. Yates, A. M., 2003. A new species of the primitive dinosaur *Thecodontosaurus* (Saurischia: Sauropodomorpha) and its implications for the systematics of early dinosaurs. *Journal of Systematic Palaeontology*, **1**, 1-42.
154. Yates, A. M. and Warren, A. A., 2000. The phylogeny of the 'higher' temnospondyls (Vertebrata: Choanata) and its implications for the monophyly and origins of the Stereospondyli. *Zoological Journal of the Linnean Society*, **128**, 77-121.
155. Zheng, X.-T., You, H.-L., Xu, X. and Dong, Z.-M., 2009. An Early Cretaceous heterodontosaurid dinosaur with filamentous integumentary structures. *Nature*, **458**, 333-336.
156. Zhou, C.-F., Wu, S.-Y., Martin, T. and Luo, Z.-X., 2013. A Jurassic mammaliaform and the earliest mammalian evolutionary adaptations. *Nature*, **500**, 163-167.
157. Zhu, M., Yu, X.-B. and Ahlberg, P. E., 2001. A primitive sarcopterygian fish with an eyestalk. *Nature*, **410**, 82-84.
158. Zhu, M., Zhao, W.-J., Jia, L.-T., Lu, J., Qiao, T. and Qu, Q.-M., 2009. The oldest articulated osteichthyan reveals mosaic gnathostome characters. *Nature*, **458**, 469-474.