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## Epilogue

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Fossils of over 800 genera of dinosaurs have been found and described – usually on the basis of only a few teeth or bones. More are identified every year. Most of these genera are based on a single species, which suggests that thousands more genera and species are waiting to be discovered. Numerous others may never have been fossilised. Yet the dinosaurs were only one of the major taxa of Mesozoic reptiles. This gives some indication of the plethora of reptile species that must have evolved and become extinct during the Era. Each of these must have been adapted to a specific habitat at a particular moment during a time span of about 185 my. The smallest known dinosaur was only 60 cm in length and weighed about 3.5 kg, the largest was over 30 m long and weighed some 60 tonnes, but all that these scaly-skinned reptiles left behind were fossilised skeletons and trackways. The feathered dinosaurs are with us still in the form of birds.

Our solar system began some 4,550 mya when a star collapsed and exploded, but life did not appear for another 1,000 my. Even so, the period during which vertebrates have existed represents only a tiny fraction of the time during which the world has supported life, and it was not until around 540 mya that the chordates arose. The first reptiles evolved during the Middle Cambrian and the pelycosaurs diversified in the Early Permian. The Mesozoic Era (250–65 mya) lasted for 185 my. Some idea of the length of time involved can be gained from the thickness of the Upper Cretaceous chalk deposits of southern England and Europe. These were formed from the shells of microscopic marine organisms over many millions of years. Crude oil, too, was formed from organic remains by the action of heat and pressure over comparable millions of years. Again, when Pangaea broke up and continental drift began, at a rate of a centimetre or so per year, organic matter in sedimentary rocks was forced downward by movement of the tectonic plates, eventually to be melted and finally expelled in the form of carbon dioxide in the gaseous emissions of modern volcanoes.

Many of the Mesozoic reptiles were more spectacular and exciting than any animals that had appeared before that time or have existed later. Different forms evolved in response to particular environmental conditions, and died out when these conditions changed. When similar conditions returned, they were replaced by ecological equivalents, usually not closely related to them. Such considerations enhance the fascination afforded by the study of ancient life in general and of Mesozoic reptiles in particular.

## B

## Bibliography

The literature on Mesozoic reptiles is vast. The present list of publications includes by no means all those upon which the text has been based. For the sake of conciseness, reviews and recent books, particularly when well illustrated, have been cited in preference to original research publications. The names of artists are given when listed on title pages. Especially significant as sources of reference are the following: Thomas and Olson (1980); Kemp (1982); Hotton et al. (1986); McGowan (1991); Wellnhofer (1991); Archibald (1996); Dodson (1996); Callaway and Nicholls (1997); Currie and Padian (1997); Farlow and Brett-Surman (1997); Hallam and Wignall (1997); Ellis (2003); Benton (2004).

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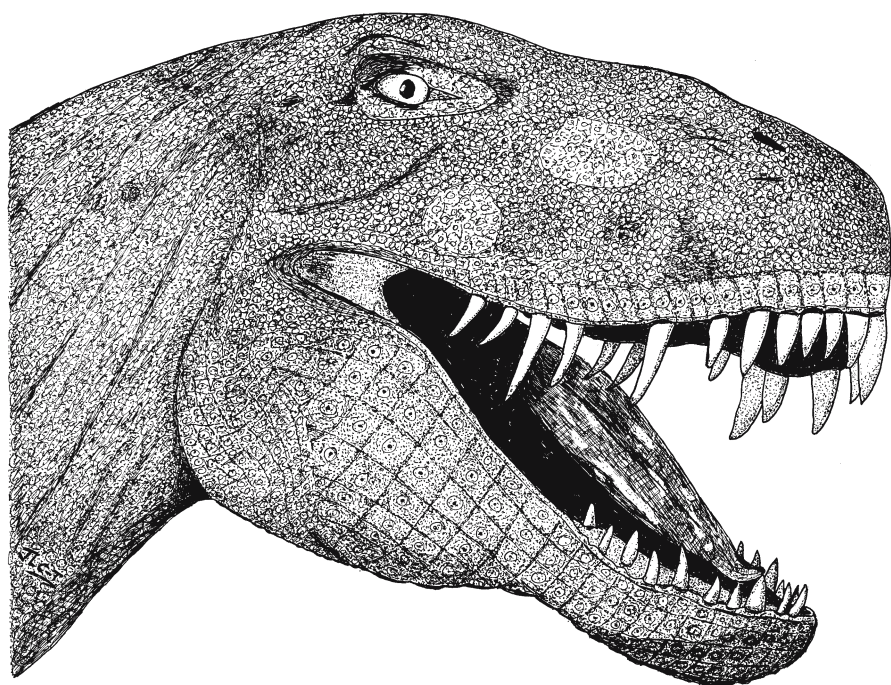
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Page numbers in *italics* refer to illustrations

## A

Abelisauridae 156  
*Acrocanthosaurus* 140–141, 181  
*Adelobasileus* 116  
*Aepyornis* 143–144  
 aestivation 112, 158, 198  
 aetosaurs (*see* Stagonolepididae)  
 aggregation 53, 55, 91, 129–130, 146, 151, 156, 183  
 agonistic behaviour 136–142, 163–166  
 Aigialosauria 35  
*Alamosaurus* 96  
*Albertosaurus* 134–135, 185  
*Alioramus* 185  
 alligators 101 (*see* Crocodylia)  
 Allosauridae 183–184  
*Allosaurus* 129, 183–184  
 Alvarez, L. 193  
*Alxasaurus* 178–179  
*Amblyrhynchus* 33  
 Amphibia 1, 3, 11–12, 89–90  
 Anapsida 3, 4–5, 12–14, 116–117  
*Anatosaurus* 162  
*Anchiceratops* 132, 134–135, 165  
*Anhanguera* 53–54, 80  
 Ankylosauridae 166–168  
*Ankylosaurus* 96, 132, 168  
 Anthracosauria 3  
*Anurognathus* 74–75, 76–77, 82  
*Apatosaurus* 5, 93–94, 95–96, 97–98, 144, 154–156, 183–184, 190  
*Araripedactylus* 80  
*Archaeopteryx* 6, 61, 111, 186–188  
*Archelon* 29  
 Archibald, D. 193  
*Archidiskodon* 97  
 Archosauria 4–7  
 Archosauromorpha 120–123  
*Ardeosaurus* 119  
*Argentinosaurus* 111, 153  
 armour (*see* weapons, defensive)  
 Arthropoda 1  
*Askeptosaurus* 34–35

aspect ratios 49–50  
 atricial young 84–85  
*Atlantosaurus* 93  
 Attridge, J. 149  
*Australochelys* 27  
 Aves 6, 49, 70–71, 81, 83–84, 86, 174  
 – origin 6, 185–188  
*Azhdarcho* 80, 86

## B

$\beta$ -crystalline 195–196  
*Bactrosaurus* 161–162  
*Bagaceratops* 164  
 Bakker, R. T. 94, 109  
*Balaenoptera* 59  
 Baldwin, E. 197  
 Barlow, W. D. 135  
*Barosaurus* 16, 153–156  
*Baryonyx* 181–182  
*Basiliscus* 39  
*Batrachognathus* 82  
 Batrachosauria 11  
 Baupläne 25–26, 46, 48  
*Bauria* 116  
*Bavarisaurus* 174  
 beaks (*see* dentition)  
 Benton, M.J. 193  
 birds (*see* Aves)  
 bolides (*see* meteorites)  
 bones 92, 112  
 – histology 6, 105–107  
*Brachiosaurus* 93–95, 96, 99, 127, 139, 144, 154–155, 156, 190  
*Brachyceratops* 132  
 brachycardia 28  
 bradymetabolism 54–55, 67, 100–101, 109–111, 114  
 (*see* thermoregulation)  
*Bradysaurus* 12, 14  
 brains 74, 92, 136, 166, 178  
*Breviceratops* 132  
*Brontosaurus* (*see* *Apatosaurus*)  
 Butt, D. 100

## C

Calcium carbonate 191  
*Californosaurus* 57  
*Camarasaurus* 96–97, 139, 156, 184  
*Camptosaurus* 96, 160, 184  
*Campylognathoides* 76–77  
 cannibalism, dinosaur 73, 180  
*Captorhinus* 11  
*Caratogymna* 84  
*Carcharodontosaurus* 182, 184  
 cardiovascular pressures 99  
 carnosaurs 170–171, 179–185  
*Carnotaurus* 156  
 Carroll, R. 63  
*Caudipteryx* 111, 187  
*Cearodactylus* 80  
*Centrosaurus* 132, 140, 165  
 Ceratopsia 136–137, 163–165  
 Ceratopsidae 164–165  
 Ceratosauria 172–173  
*Ceratosaurus* 141–142, 184  
*Ceresiosaurus* 32–33  
*Champsosaurus* 36–37, 95, 127  
 Charig, A. 98, 193  
*Chasmatosaurus* 120  
*Chasmosaurus* 132, 136–137, 165  
 cheeks 60, 156–157, 159  
 cheetahs 108  
 Chelonia (see Testudines)  
*Chelus* 28  
 Chelyidae 28  
 Chicxulub 194–195  
*Chlamydosaurus* 39  
*Choristodera* 36–37  
 clades 6, 7, 126  
 Claudiosauridae 33  
*Claudiosaurus* 33  
 Claussen, D. 111  
 claws 128, 132, 176–178, 181  
 cleidoic eggs 11–12, 23  
*Coelophys* 126, 172–173, 184  
*Coelurosauravus* 63–65  
 coelurosaurians 6  
*Coelurus* 174  
 Colbert, M. M. 38  
 collagen fibres 6, 68  
 coloration 7–8, 81, 129, 135, 137, 197  
 Compsognathidae 174  
*Compsognathus* 174–175, 186  
 Conybeare, W. D. 51  
 continental drift 10, 24, 113, 199  
 Cope, E.D. 180  
 coprolites 169, 184  
*Corythosaurus* 138, 142  
*Cotylorhynchus* 16  
 cotylosaurs (see Captorhinidae)

courtship, dinosaurs 142–143  
 cranial crests 69, 80, 84, 138, 142, 156, 162, 166  
 crocodylians (see Crocodylia)  
 Crocodylia 5, 38–43, 127  
 – behaviour 43, 109  
 – dentition 41–43  
 – diet 38–43  
 – eyes 38, 41  
 – locomotion 40–41  
 – thermoregulation 54, 101  
*Crocodylus* 99, 144  
*Crotaphytus* 39  
 Cryptoclididae 51–52  
*Cryptoclidus* 51–52  
 Cryptodira 28–29, 117  
*Ctenochasma* 78–79, 81  
 Cycadoidea 20–21  
*Cyclura* 95  
*Cymbospondylus* 55–56, 57  
 Cynodontia 113–116  
*Cynognathus* 114–115

## D

*Daedalosaurus* (see *Coelurosauravus*)  
*Daspletosaurus* 185  
*Dasypletis* 145  
 deimatic behaviour 85  
*Deinonychus* 128–129, 130, 140, 159, 177  
*Deinosuchus* 40  
 Delphinidae 60  
*Dendrolagus* 158  
 dentition  
 – anapsids 12  
 – carnivorous dinosaurs 121, 126, 145, 171–172, 178, 182–183  
 – crocodiles 17, 41–43  
 – dicynodonts 17  
 – herbivorous dinosaurs 149–152, 156, 158, 161–162, 169  
 – ichthyosaurs 56  
 – mesosaurs 26  
 – nothosaurs 32  
 – placodonts 29–30  
 – plesiosaurs 53  
 – pliosaurs 78–82  
 – pterosaurs 72–74, 76–82  
 – therapsids 113–120  
 – turtles 27  
 de Ricqlès, A. 109  
*Dermodactylus* 29, 144  
*Dermodactylus* 78  
*Desmatosuchus* 122  
*Diadectes* 11, 14  
 Dial, K. 188  
 Diapsida 3–4, 5

- Dicynodontia 16–18  
 digestion 150–151  
*Dilophosaurus* 141–142  
*Dimetrodon* 15–16, 102, 198  
*Dimorphodon* 72–74, 76–77, 127  
*Dinilysia* 127  
 Dinocephalia 16  
*Dinornis* 143  
 Dinosauria 5, 20, 89–201  
 dinosaurs (*see* Dinosauria)  
*Diomedea* 82  
 Diplodocidae 93–94  
*Diplodocus* 5, 93–94, 95–96, 97–98, 132, 153, 184, 190  
 diseases, dinosaur 196  
 Dodson, P. 193  
 Dolichosauria 35  
*Doratorhynchus* 80  
*Dorygnathus* 70, 76–77  
*Draco* 63  
 Dromaeosauridae 128–130, 176–177  
*Dromaeosaurus* 159  
*Dromiceiomimus* 175–176  
*Dsungaripterus* 79, 81  
*Dyposaurus* 131–132, 167  
*Dystylosaurus* 155
- E**  
 ectothermy (*see* bradymetabolism)  
*Edaphosaurus* 15  
*Edmontosaurus* 161–162, 169  
 eggs 23, 53, 83, 143–147, 196 (*see* cleidoic eggs)  
*Einosaurus* 137  
 Elasmosauridae 51  
*Elasmosaurus* 52  
 elephant, African 94 (*see* *Elephas*, *Loxodonta*, *Mastodon*)  
*Elephas* 97  
 Eliot, T. S. 199  
 endothermy (*see* tachymetabolism)  
 enzyme systems 111–112  
*Eoraptor* 125–126  
*Ericiolacerta* 115–116  
*Erythrosuchus* 120–121  
*Eudimorphodon* 61–62, 63, 72–73, 76  
*Euoplocephalus* 132, 167  
*Euparkeria* 120–121  
*Eurhinosaurus* 57–58  
*Eusuchia* 40–41  
*Excalibosaurus* 58  
 excretion, salt (*see* salt excretion)  
 extinction hypotheses  
 – cataclysmic 193–195, 199  
 – gradualist 195–196  
 – improbable 192–193  
 – nutritional 197  
 – thermal 197–199  
 extinctions 9–10, 18, 20, 60, 85–86, 189–200  
 – K-T 86, 191–200  
 – Permian 190–191  
 – Triassic 191  
 eyes 38, 41, 56, 58–59, 74, 137–138, 195
- F**  
 Fabrosauridae 157–158  
 Falconiformes 83–84  
 feathers 111, 175, 186–187  
 fenestrae, temporal 3–4  
 filter-feeding 24, 42, 59–60, 78–79, 81  
 fishes, swimming 48  
 flight  
 – birds 186–187  
 – pterosaurs 67–70  
 flora 9, 19–21  
 Foraminifera 192  
 fullerenes 190
- G**  
*Gallimimus* 175–176  
*Gallodactylus* 78–79  
 Galton, P. M. 171  
*Gangamopteris* 19  
 Garland, T. 94  
 gastroliths 41, 47, 149–151  
*Gavialis* 37  
*Geochelone* 196  
*Geosaurus* 39–40  
*Germanodactylus* 78–79  
*Gigantosaurus* 184–185  
 gliding flight 63–67  
*Glossopteris* 19  
*Gnathosaurus* 78–79  
 Gondwanaland 10, 19, 79, 113, 127–128, 156, 161  
 Gorgonopsia 17–18  
 gout 196  
*Gracilisuchus* 38–39  
 gregarious behaviour (*see* aggregation)  
 guilds 59
- H**  
 Hadrosauridae 142, 146, 156, 160–162, 185  
*Hadrosaurus* 161  
 Haekel, E. 185–186  
 hair 67–68, 81, 111, 114, 198  
 Halstead, B. 98, 193  
*Hadrosaurus* 161  
*Haplocanthosaurus* 96  
*Hatzogopteryx* 83  
 Haversian canals 6, 105–107  
 hearing, crocodylian 41  
*Henodus* 29–30, 31



herds (*see* aggregation)  
 Herrerasauridae 126  
*Herrerasaurus* 125–126  
*Hesperornis* 188  
 Heterodontosauridae 157–158  
*Heterodontosaurus* 139, 158  
 hibernation 112, 198  
*Hippopotamus* 97  
 homeothermy (*see* tachymetabolism)  
 horns 132, 137, 142, 164–165  
*Huanhepterus* 78  
 Huxley, T. H. 67, 158, 186  
*Hylaeosaurus* 166  
*Hylonomus* 3, 12–13  
*Hypacrosaurus* 140–141, 143  
*Hyperodapedon* 182–183  
 hyperphalangy 33, 55  
*Hypselosaurus* 143–144, 196  
*Hypsilophodon* 157–159, 162  
 Hypsilophodontidae 158–159  
*Hypsognathus* 117

## I

*Icarosaurus* 64–65  
*Ichthyornis* 188  
 Ichthyosauria 5, 45, 48–49, 50, 54–60  
 ichthyosaurs (*see* Ichthyosauria)  
*Ichthyosaurus* 57, 59  
*Iguanodon* 5, 127, 138–139, 160, 162, 184  
 Iguanodontidae 160  
 injuries, skeletal 196  
 iridium 194

## K

*Kannemeyeria* 113–114  
 Krakatoa 194  
*Kritosaurus* 161–162  
*Kronosaurus* 53, 59  
*Kuehneosaurus* 64–65

## L

*Labidosaurus* 11  
*Lagosuchus* 120–121  
 Lankester, E. R. 186  
 Laramide revolution 10, 191  
*Lariosaurus* 32–33  
 lateral lines 11  
 Laurasia 79, 86, 127–128, 156  
 Laurentia 10  
 Leidy, J. 162  
 Lepidosauria 4–5, 117–118  
*Leptoceratops* 164  
*Leptopterygius* 57  
*Lesothosaurus* 157–158  
 lift-to-drag ratios (*see* aspect ratios)  
*Liopleurodon* 53–54

Lissamphibia 3  
 Lissman, H. W. 24  
 locomotion  
 – aerial 63–70  
 – aquatic 24–26, 42–50  
 – bipedal 39, 70–71, 90–92  
 – crocodilian 40–41  
 – quadrupedal 71–72, 89–90  
 – serpentine 89  
 longevity 196  
*Longisquama* 66–67  
 Lovelock, J. 193  
*Loxodonta* 97 (*see* elephant)  
*Lycaon* 177  
*Lystrosaurus* 113–114

## M

MacLeod, N. 193  
*Macroplata* 51–52, 53  
*Maiasaura* 143, 169  
*Majungatholus* 180  
 mammals, origin (*see* Therapsida)  
 Maniraptorina 174–178  
*Manta* 81  
 Mantell, G. 160, 162  
*Marasuchus* 120–121, 125  
 Marsh, O. C. 187–188  
 Maryaniska, T. 168  
*Massetognathus* 114–115  
*Massospondylus* 125–126, 149–151  
*Mastodon* 97  
 Megalosauridae 181  
*Megalosaurus* 127  
*Megatherium* 179  
 Melanorosauridae 151–152  
*Merriamia* 57  
*Mesadactylus* 78  
 Mesosauridae 5, 24,  
*Mesosaurus* 13, 24, 116  
 metabolic rates 100  
 meteorites 191, 194–195, 199  
 methane 191  
*Metriorhynchus* 38–40  
*Microceratops* 164  
 migration 48–49, 53, 112  
*Mirounga* 139  
*Mixosaurus* 55, 57  
*Monoclonius* 165  
*Montanaceratops* 164  
*Moradisaurus* 13  
 Mosasauridae 26, 34–36  
 mosasaurs (*see* Mosasauridae)  
*Moschops* 16–17  
*Muraenosaurus* 51–52  
*Mussaurus* 145, 151  
*Muttabarrasaurus* 160

## N

*Nannotyrannus* 137  
 nares 35, 38, 95, 155  
*Neovenator* 184  
 nesting behaviour  
 – crocodiles 43  
 – dinosaurs 143–147  
 – pterosaurs 84–85  
*Nodosauridae* 166–168  
*Nodosaurus* 166–167  
*Nopsca*, F. von 187  
 nostrils (*see* nares)  
*Nothosauria* 5, 26, 31–33  
*Nothosaurus* 32  
*Nyctosaurus* 69, 81

## O

*Odontoceti* 60  
*Oligokyphus* 114–115  
*Ophthalmosaurus* 58–59  
*Oramnos* 163  
*Orcinus* 180  
*Ornithelia* 149  
*Ornithischia* 4–6, 156–168  
*Ornithocheirus* 80, 84–85  
*Ornithodesmus* 80  
*Ornitholestes* 142  
*Ornithomimidae* 175  
*Ornithomimus* 175  
*Ornithopoda* 156–162  
*Ornithosuchidae* 121  
*Ornithosuchus* 39–40, 120–121  
*Orthosuchus* 39  
*Ostrom*, J. H. 109, 165, 175, 187  
*Ouranosaurus* 140–141, 160, 182  
*Ovibos* 135  
*Oviraptor* 143–145, 149, 175  
*Oviraptoridae* 175  
 ovoviviparity 55, 57, 144, 181  
 Owen, R. 165

## P

*Pachycephalosauria* 163  
*Pachypleurosauria* 26  
*Pachyrachis* 119  
*Pachyrhinosaurus* 132, 136  
 palaeobioenergetics 109–110  
 palaeolatitudinal distribution 109–110  
 Pangaea 10, 20, 190, 201  
*Panoplosaurus* 166–167  
*Paralititan* 153  
 ‘parapsida’ 4  
 ‘Parareptilia’ 4–5, 10–11  
*Parasauropodus* 96, 138, 142  
*Parasuchus* 37  
 parental care 43, 84, 109, 145–146, 161

*Parkosaurus* 159  
*Pelecanus* 82  
*Peloneustes* 51–52  
 pelvis, dinosaur 5–6  
*Pelycosauria* 5, 14–16, 102  
 Permian extinction 190–191 (*see* extinctions)  
*Pentaceratops* 136, 165  
*Perdix* 188  
*Peteinosaurus* 73, 76–77, 82  
*Phobereptor* 79  
*Phocaenidae* 60  
*Physeter* 50, 59  
*Phytosauridae* 37–38, 121  
 phytosaurs (*see* *Phytosauridae*)  
*Phytosaurus* 37–38  
*Pinacosaurus* 168  
*Pisanosaurus* 126  
*Pistosauridae* 45  
*Pistosaurus* 32, 45  
*Placochelys* 31  
*Placodontia* 5, 26, 29–31  
 placodonts (*see* *Placodontia*)  
*Placodus* 30–31  
*Planistidae* 60  
*Planocephalosaurus* 118  
*Plateosauridae* 152  
*Plateosaurus* 91, 125, 149  
*Platypterygius* 58–59  
*Pleurodia* 28, 117  
*Plesiosauria* 5, 26, 45–48, 51–54  
*Plesiosauridae* 5, 45–47, 48, 51–54  
 plesiosaurs (*see* *Plesiosauria*)  
*Pleurosaurus* 34–36, 51, 118  
*Pliosauridae* 26, 48, 51–54  
 pliosaurs (*see* *Pliosauridae*)  
*Podokesauridae* 172–173  
*Polacanthus* 127, 166  
 porpoising 50  
 predation, types of 59, 180–181, 184  
 predator traps 184  
 predator:prey ratios 107–108  
*Preondactylus* 76  
*Pristis* 58  
*Probactrosaurus* 160  
*Procolophon* 116–117  
*Procompsognathus* 173  
*Proganochelys* 27–28, 116  
*Prolacertiformes* 123  
 propatagium 69  
*Prosauropoda* 91, 126, 151–152  
 (*see* *Sauropodomorpha*)  
*Protarchaeopteryx* 175, 186–187  
*Proterosuchus* 120  
*Protocerotops* 132–133, 135, 145–146, 164  
*Protoceratopsidae* 164  
*Protosauria* 31

- Psittacosauridae 162–163  
*Psittacosaurus* 132, 162  
*Pteranodon* 68–72, 80–81, 84–86  
 Pterodactyloidea 51, 77–82  
 pterodactyls (*see* Pterosauria)  
*Pterodactylus* 69–72, 77–78, 85  
*Pterodaustro* 80–81  
*Pteropus* 81  
 Pterosauria 5, 61–63, 79–87  
 pythons 198
- Q**
- Q<sub>10</sub> 190 198  
 quartz, shocked 194  
*Quetzalcoatlus* 62–63, 80–81, 83–84, 86
- R**
- r-K strategies 147  
 Rauisuchidae 121  
 reproduction  
 – dinosaurs 136–147  
 – pterosaurs 83–85  
 respiration  
 – amphibians 3  
 – chelonians 27–28  
*Rhamphorhynchoidea* 61, 72–77  
*Rhamphorhynchus* 73–75, 76, 83  
*Rhincodon* 81  
 Rhipidistia 3  
*Rhynchops* 82  
 Rhynchosauridae 122–123  
 Rhynchocephalia 5, 127  
*Riojasaurus* 151–152  
*Roccosaurus* 151  
 Romer, A. S. 26  
*Rutiodon* 37–38, 121
- S**
- Saicharnia* 168  
 ‘sails’ 16, 69, 102, 182, 198  
 salt excretion 43  
 Saltoposuchidae 39  
*Saltoposuchus* 38–39  
*Saltopus* 173  
*Santanadactylus* 80  
*Sarchania* 132  
 Saurischia 4–6  
*Sauroctonus* 16, 18  
*Sauroithoides* 177  
 Sauroithoididae (*see* Troodontidae)  
*Sauropelta* 166  
 Sauropoda 151, 153–156  
 Sauropodomorpha 91, 126, 151–152  
 Sauropterygia 5, 45  
*Saurosuchus* 121  
 scavenging 83, 180–181  
*Scapognathus* 74–75, 76–77  
*Scelidosaurus* 131, 163  
*Scutellosaurus* 158  
*Scutosaurus* 13  
*Secernosaurus* 161  
 Seeley H.G. 67  
 segnosaur (*see* Therizinosauridae)  
*Seismosaurus* 5, 93, 150, 153–154  
*Seymouria* 11  
 sharks 49  
 Sharov, A. B. 66  
*Sharovipteryx* 65–66  
 Shastasauridae 55–57  
*Shastasaurus* 57  
*Shonisaurus* 55, 57, 59  
*Shunosaurus* 132  
 Sibbick, J. 82, 177  
*Sigillaria* 19  
*Silvisaurus* 166–168  
*Sinocodon* 116  
*Sinosauropteryx* 175, 186–187  
 size limits, body 92–99, 110–112  
 – eggs 143–144  
 skin 102, 128, 130  
*Solenodontosaurus* 11  
*Sordes* 67–69, 74  
 sound production 135, 168  
 speeds  
 – dinosaurs 94, 180  
 – marine reptiles 26  
*Sphenodon* 34, 118  
 Sphenodontida (*see* Rhynchocephalia)  
 spikes (*see* spines)  
 spines 98, 102, 122, 130–135, 139, 160,  
 165–168  
 Spinosauridae 181–182  
*Spinosaurus* 140–141, 181–182  
 Squamata 4–5, 118–119, 127  
 Stagonolepidae 121–122  
*Stagonolepis* 121–122  
*Stauricosaurus* 125–126  
*Stegoceras* 140, 163  
 Stegosauria 165–166, 198  
*Stegosaurus* 96, 98, 102, 130, 132, 165, 184  
 stem-reptiles (*see* ‘Parareptilia’)  
*Stenonychosaurus* 177  
*Stenopterygius* 50, 57–58  
*Stereosternum* 24  
 Stieler, C. 70  
 stomach stones (*see* gastroliths)  
*Styracosaurus* 165  
*Struthio* 176  
*Struthiomimus* 175  
*Struthiosaurus* 166  
*Styracosaurus* 136, 165  
*Supersaurus* 155

Synapsida 4–5, 14–18  
swimming 24–26, 42–50, 89

## T

tachymetabolism 43, 54–55, 67, 100–102, 112, 114–115, 198  
tail clubs 130, 132, 139  
tails 34, 36, 48–49, 72–74, 91, 95, 132, 137, 139–140, 166  
*Talarurus* 132, 168  
*Tanystropheus* 123  
*Tapejara* 69, 80  
tapetum 41  
*Tarbosaurus* 185  
tectonic movements (*see* continental drift)  
teeth (*see* dentition)  
*Teleoceras* 97  
*Teleosaurus* 38–39  
*Temnodontosaurus* 57–58  
Temnospondyli 3  
*Tenontosaurus* 157, 159, 177  
*Teratosaurus* 129  
*Terrestriosuchus* 38–39  
Testudines 6, 26–29, 116–117, 127  
– evolution 4–5, 26–29  
– locomotion 26  
– respiration 27–28  
– thermoregulation 198  
*Testudo* 100  
Tethys Sea 127, 156  
Thalattosauria 26, 34–36  
thalatosaurs (*see* Thalattosauria)  
*Thalattosaurus* 34  
Thecodontia 5, 7  
Therapsida 5, 16–18, 110, 113–116  
thermoregulation  
– behavioural 16, 54, 66, 99–101  
– physiological (*see* bradymetabolism, tachymetabolism)  
thermoregulatory structures 16, 66, 69, 102 (*see* ‘sails’)  
– posture 101, 104–105, 179  
Therizinosauridae 178  
*Therizinosaurus* 178  
Therocephalia 116  
*Thescelosaurus* 159  
*Thotobolosaurus* 151  
*Thrinaxodon* 114–115  
*Ticinosuchus* 120–121  
*Titanopteryx* 80, 86

Titanosauridae 156  
*Titanosuchus* 16–17  
*Toretocnemus* 57  
*Torosuchus* 132–133, 136, 165  
tracks, fossil 94, 169  
Triassic extinction (*see* extinctions)  
*Triassochelys* 27, 116  
*Triceratops* 94, 96, 98–99, 127, 132, 134–137, 140, 165, 190  
Trilophosauridae 122  
*Trilophosaurus* 122–123  
Tritylodontidae 114, 177–178  
*Troodon* 143, 184  
*Tropeognathus* 80  
*Tsintosaurius* 138–142  
*Tupuxuara* 81  
turtles, marine 26 (*see* Testudines)  
*Tylosaurus* 34–35, 36  
Tyrannosauridae 179, 184–185  
*Tyrannosaurus* 5, 53, 94, 129, 134–135, 137, 179–180, 184–185, 190

## U

*Ultrasaurus* 155  
Urey, M. 193  
Urodela 89–90  
uropatagium 69  
*Ursus* 182

## V

Varanidae 127  
*Varanosaurus* 14  
*Varanus* 95, 107  
*Velociraptor* 128, 133, 135, 177  
vision, binocular 136–137, 178  
*Vjushkovia* 121  
*Vulcanodon* 151–152  
vultures 83

## W

Walters, R. 135  
Wassersug, R. J. 109  
weapons, dinosaur 128–135  
– defensive 130–135  
– offensive 128–130  
Wegener A. 113  
weights, body 40, 92–99, 153–154  
whales (*see* *Balaenoptera*, *Physeter*)  
Williston, S. 187