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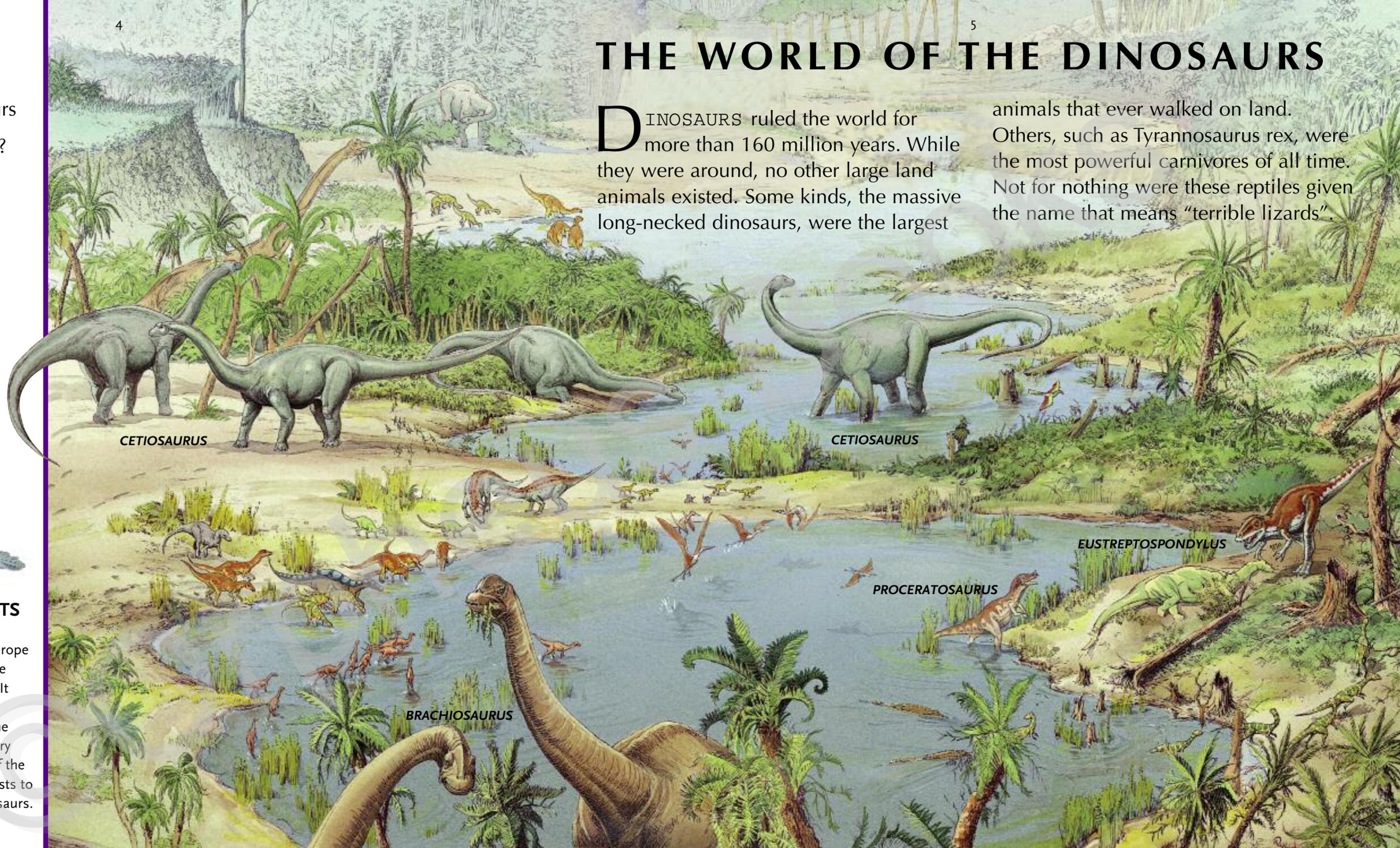
THE DINOSAURS' DESCENDANTS

The first birds evolved during the Age of Dinosaurs. Archaeopteryx, which lived in Europe around 150 million years ago, was one of the earliest birds known from the fossil record. It had a tooth-filled beak, a long bony tail and feathers. It lived in the same place and at the same time as the tiny, fast-running, predatory dinosaur, Compsognathus. The skeletons of the two animals are very similar, leading scientists to think that Archaeopteryx evolved from dinosaurs.

THE WORLD OF THE DINOSAURS

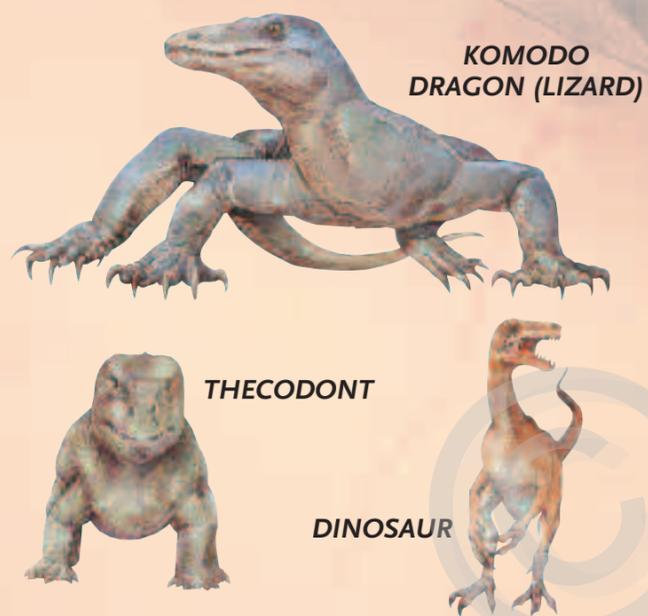
DINOSAURS ruled the world for more than 160 million years. While they were around, no other large land animals existed. Some kinds, the massive long-necked dinosaurs, were the largest

animals that ever walked on land. Others, such as Tyrannosaurus rex, were the most powerful carnivores of all time. Not for nothing were these reptiles given the name that means "terrible lizards".



WHAT WERE DINOSAURS?

DINOSAURS were land reptiles that stood with their legs beneath their bodies, like mammals and birds do today. Neither marine reptiles nor flying reptiles were dinosaurs, although they lived during the same age. The legs of most reptiles, like modern-day lizards, are at the side of their body. Thecodonts were prehistoric reptiles that had partly bent legs. Some of the thecodonts may have evolved into the first dinosaurs.



INSIDE AN EGG

Like most modern reptiles, dinosaurs laid eggs. They were hard-shelled with tiny holes in the walls, allowing the babies inside to breathe. When ready to be born, the hatchlings knocked the tops off and climbed out. In some kinds of dinosaur, the newborn hatchlings were still not fully developed and so still depended on their parents for care. In others, the babies (like the *Megalosaurus* illustrated) were able to fend for themselves immediately, enabling their parents to leave them.



THE RISE OF THE DINOSAURS

MORE THAN 360 million years ago in the Devonian period, warm tropical waters lapped the shores of places like Scotland and Canada. Some bony fish evolved lungs and fleshy fins and could stay out of the water for a while.

Some fish developed proper limbs with fingers and toes, becoming the first amphibians. These animals still kept close to water where they laid their jelly-covered eggs. Some creatures found a way to lay eggs on land. They were the first reptiles.

RISE OF THE REPTILES
From the late Carboniferous period and on into the Permian, reptiles spread to all parts of the world. They could lay eggs on land so they were able to live

almost anywhere, including lands with dry climates. The baby reptiles were protected by a shell and had yolk for food. New kinds of reptiles developed strong legs, tough skin and powerful jaws which they used to bite on flesh and plants.

KEY

- 9 Lystrosaurus
- 10 Proterosuchus
- 11 Ornithosuchus
- 12 Coelophysis
- 13 Plateosaurus
- 14 Phytosaur
- 15 Proganochelys (turtle)
- 16 Eudimorphodon
- 17 Megazostrodon
- 18 Dilophosaurus
- 19 Diplodocus
- 20 Archaeopteryx
- 21 Pterodactylus
- 22 Brachiosaurus
- 23 Allosaurus

AGE OF DINOSAURS

By the Triassic period, some reptiles were standing upright and getting about on two legs: the dinosaurs had arrived. The first dinosaurs were flesh-eaters. They had long, powerful back legs for running and short arms with claws for grappling. Some later flesh-eaters were massive. Others were small sprinters no bigger than cats.

JURASSIC GIANTS

Most of the story of the dinosaurs takes place during two geological periods: the Jurassic and Cretaceous. The Jurassic was the heyday of the truly gigantic sauropods, like Diplodocus. Their very size may have saved them from fierce predators like Allosaurus, seen here about to devour a slightly smaller sauropod, Camarasaurus.

FLYING REPTILES

Before the Jurassic Period, only insects had conquered the air. Now, pterosaurs, the first true flying vertebrates, soared in the skies. By the late Cretaceous they were huge hunters: some were the size of small planes!



KEY

- 1 Eusthenopteron
- 2 Hylonomus
- 3 Dragonfly
- 4 Eryops
- 5 Dimetrodon
- 6 Scutosaurus
- 7 Moschops
- 8 Coelurosauravus

KEY

- 24 Camarasaurus
- 25 Iguanodon
- 26 Corythosaurus
- 27 Styrcosaurus
- 28 Tyrannosaurus
- 29 Quetzalcoatlus
- 30 Struthiomimus
- 31 Magnolia
- 32 Morganucodon

DEVONIAN

360 million years ago

CARBONIFEROUS

286 million years ago

PERMIAN

245 million years ago

TRIASSIC

208 million years ago

JURASSIC

144 million years ago

CRETACEOUS

65 million years ago