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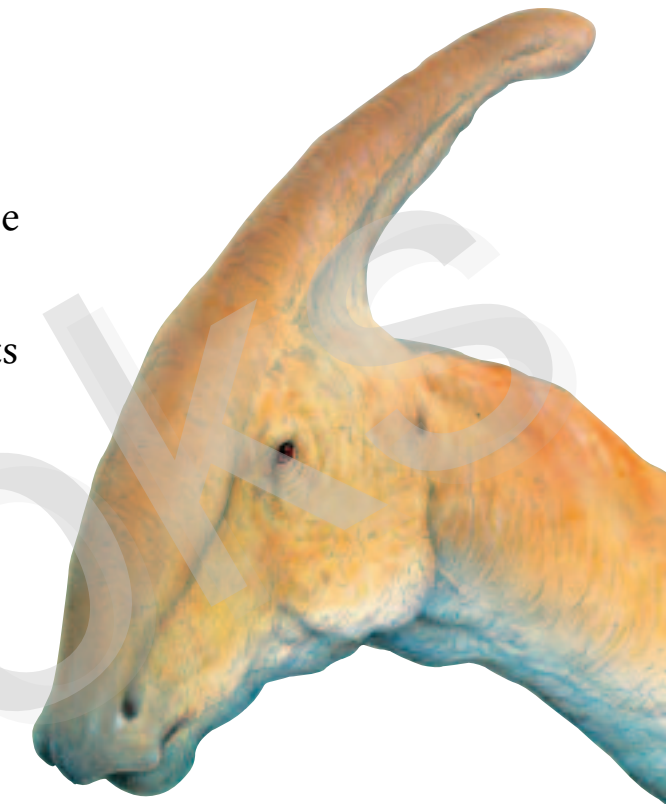
## The dinosaurs

The dinosaurs were ancient reptiles that dominated the Earth for more than 160 million years. They first appeared 230 million years ago, during what geologists call the Triassic period. They flourished during the next two periods, called the Jurassic (200-145 million years ago) and the Cretaceous (145-65 million years ago).

Dinosaur means “terrible lizard”. They were given this name because the first dinosaur fossils found were very large, but in fact dinosaurs came in all shapes and sizes. The smallest were no bigger than chickens, whereas the largest would dwarf a four-storey building. Some dinosaurs were meat-eaters and others were plant-eaters.

While the dinosaurs roamed the Earth, flying reptiles, called pterosaurs, ruled the air, and marine reptiles swam in the seas.

The dinosaurs, and many other prehistoric creatures, went extinct at the end of the Cretaceous period. This was probably due to massive environmental changes that occurred about 65 million years ago, when a giant meteorite hit the Earth. The dust and debris from the collision filled the atmosphere and blocked out the light of the sun for many years. But the disappearance of the dinosaurs left room for the rise of another group of animals—the mammals.



**FIRST BIRDS?**

With its light bones, warm blood, covering of feathers and ability to fly, *Archaeopteryx* had many bird-like features. But it was also very dinosaur-like. Its jaws were lined with tiny sharp teeth, it had a bony tail and there were

claws on its wings. Many scientists think this suggests that birds evolved from small feathered dinosaurs. Feathers probably first developed as a means to keep warm.

Claws on wings



Feathers

Archaeopteryx

Rhamphorhynchus



Long tail with diamond-shaped tip



**ADAPTED BEAKS**

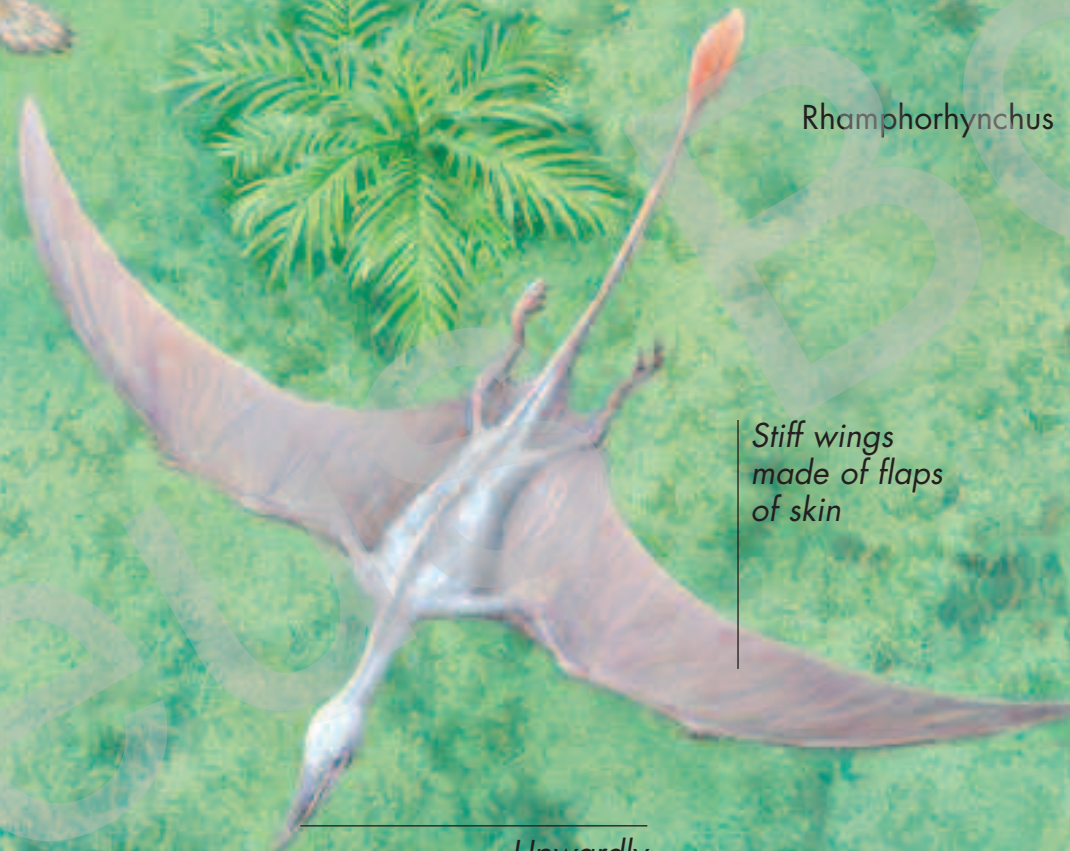
*Rhamphorhynchus* used its curved, tooth-lined beak to catch fish. *Plataleorhynchus* scooped water with its spoon-shaped beak as it flew low over lakes and rivers, and sieved out food through its closely spaced teeth.

**PREHISTORIC RAINFOREST**

One striking difference between this lush Jurassic rainforest and a modern one is that there were very few flowers to break up the endless sea of green. Flower-bearing plants were only just

appearing, so forests at this time were dominated by evergreen plants such as ferns, tree-ferns, ginkgos, conifers and cycads—plants with frond-like leaves similar to palms. Many of these grew to enormous size. A giant tree-fern, for instance, could reach 40 metres high.

Rhamphorhynchus



Stiff wings made of flaps of skin

Upwardly curved beak

**FUR OR FEATHERS?**

Unlike *Archaeopteryx* and modern birds, pterosaurs did not have feathers. But some did have fur—a soft down covering their bodies. This helped them to keep warm, suggesting that pterosaurs, like mammals and birds today, were warm-blooded.

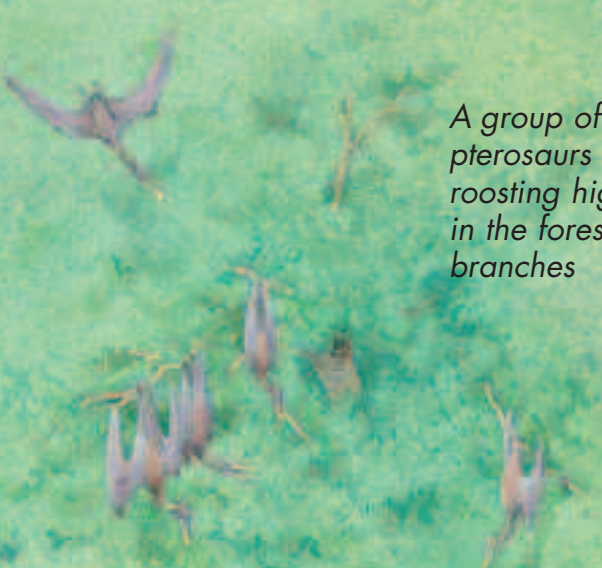
Archaeopteryx



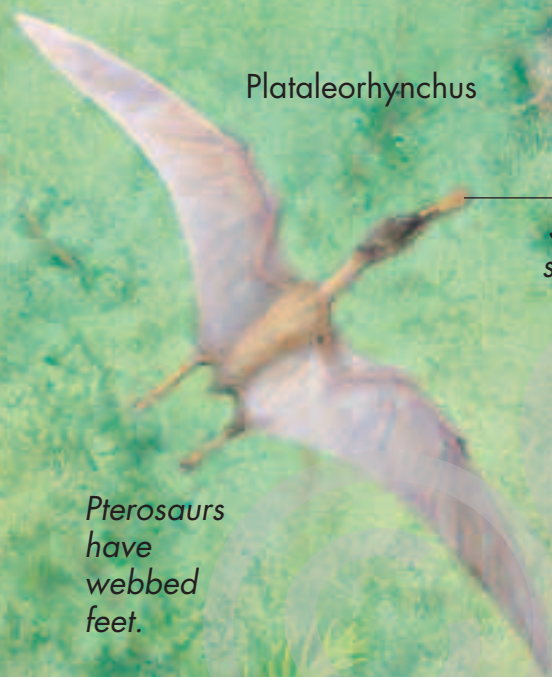
**MASTERS OF THE AIR**

Pterosaurs were flying reptiles. For nearly 100 million years they dominated the skies. They had wings formed by flaps of skin stretched from their extremely long fourth finger down the sides of their bodies. Their bones were hollow making them very light. Some had tails which helped them steer in the air. Pterosaurs were powerful flyers, but they were clumsy when moving about on the ground. Many roosted in trees and rarely ventured down to the forest floor.

A group of pterosaurs roosting high in the forest branches



Plataleorhynchus



Spoon-shaped beak

Pterosaurs have webbed feet.

BOOKS

**RUTHLESS KILLERS**

Keen eyesight, a good sense of smell, sharp claws and teeth, and the ability to run fast on its hind legs, made the wily *Metriacanthosaurus* a deadly predator in the depths of the Jurassic forest.

**MINI MEAT-EATERS**

Tiny meat-eating dinosaurs called *Compsognathus* sprinted through the forest in search of food. Although only the size of a chicken, they had sharp teeth and claws, and would catch and eat insects and small reptiles.

**DEFENCE MECHANISM**

The mottled patterns and colours of the plant-eaters camouflaged them in the shadows of the forest, helping them hide from predators.

**Jurassic forest**

It is very warm and wet in the Jurassic world of 155 million years ago. Plants and trees grow in abundance, some reaching more than 30 metres high. Much of the Earth is covered in dense forest. Flying reptiles, called pterosaurs, glide above the tree tops and roost in the uppermost branches. Also making their home in the trees are small, feathered, flying creatures, called *Archaeopteryx*.



Rhamphorhynchus

Young cycad

Metriacanthosaurus

Compsognathus

Metriacanthosaurus

Rhamphorhynchus

Sparse undergrowth on the dark forest floor

Camarasaurus

Camptosaurus

Lexovisaurus

Camptosaurus

**GENTLE GIANTS**

With so much food available, plant-eating dinosaurs could grow very large. Although about around 20 metres long, *Camarasaurus* was of medium size.

Startled plant-eaters run for cover in the dense forest.

Archaeopteryx flies above the trees.

Long feathered tail

Camptosaurus