



Archosaur April Absurdity - Creature Guide

What is an Archosaur?

Archosaurs are a group of reptiles that evolved from a single common ancestor in the early Triassic period, about 250 million years ago. Living examples of archosaurs include all modern birds as well as crocodilians, but there are a variety of extinct groups as well.

Archosaurs are characterized by a few characteristics inherited from their common ancestor, which include teeth set in sockets, special openings in their skulls, and a large ridge on the back of their upper leg bone. Many archosaurs tended to be fairly active, athletic animals with an upright body posture compared to the slow, sprawling posture of lizards.

Archosaurs are divided into two main sub-groups, which are mostly based on the way their ankle bones work. One group is called the **Pseudosuchia** (meaning 'like crocodiles') which includes living crocodilians as well as a variety of extinct families. Many species were covered with bony armor plates called osteoderms. Some of these pseudosuchian families looked a little like crocodiles, but they lived on land, and many of them even walked on only their hind legs. Others were strange-looking herbivores. Because modern crocodiles are a part of this main archosaur branch, pseudosuchians are sometimes called 'crocodile-line archosaurs'.

The other major archosaur branch is called the **Avemetatarsalia** (meaning 'bird foot-bones'). This includes the flying pterosaurs as well as the dinosaurs. Modern birds, being a part of the dinosaur group themselves, are the living members of this branch. The avemetatarsalians were a very diverse group, and include some of the largest and smallest carnivores and herbivores to ever live, both in the sky and on land.

Creature Guide

Triassic

Postosuchus: Bear-sized croc-line predator from SW USA. 4 – 5 meters long. 2-legged, large skull & teeth

Smilosuchus: Large crocodile-like phytosaur. 7 – 12 meters long. Semi-aquatic, large front teeth for capturing prey.

Plateosaurus: Early long-necked dinosaur from Europe. Horse-sized plant-eater, 8 meters long.

Herrerasaurus: Two-legged carnivorous dinosaur from Argentina. Bear-sized, 4 meters long.

Desmotosuchus: Heavily armored plant-eater from croc-line aetosaur order. From Texas. Bear-sized, 4.5 meters long.

Coelophysis: Lightly-built carnivorous dinosaur from SW USA. Long, narrow skull, slim body. 2.7 meters long.

Riojasuchus: Dog-sized croc-line predator from Argentina. 2 meters long. Notched upper jaws hook over shorter lower jaws.

Stagonolepis: Croc-line herbivore from Europe & USA. 3 meters long, covered in bony armor.

Lotosaurus: Croc-line herbivore from China. Member of poposauroid branch. Four-legged with a sail on its back, 1.5 – 2.5 meters long.

Ticinosuchus: Croc-line predator from Europe. 3 meters long. May have fed on fish.

Arizonasaurus: Sail-backed poposauroid from Arizona. Carnivore, 3 meters long.

Effigia: Bipedal, plant-eating poposauroid from SW USA. 2 meters long. Long neck, small birdlike skull, and short from limbs make it resemble ornithomimid dinosaurs of the Cretaceous.

Revueltosaurus: Croc-line herbivore from USA. 1 meter long, four-legged with large head. Teeth similar to those of early plant-eating dinosaurs.

Asilisaurus: Small, herbivorous, very early cousin to dinosaurs. Known from Tanzania. Dog sized, 1-3 meters long.

Eoraptor: Small, 1 meter-long carnivore from Argentina. One of the earliest dinosaurs.

Gracilisuchus: Lizard-sized croc-line carnivore from Argentina. May have weighed up to 3 pounds.

Jurassic

Brachiosaurus: Enormous long-necked dinosaur from Colorado. Around 20 meters long, weighed as much as six elephants. Had front legs longer than its back legs, which gave it an upright, giraffe-like posture. Chisel-like teeth for eating tough vegetation.

Apatosaurus: Long-necked sauropod dinosaur from western USA. 26 meters long, as heavy as four elephants. Neck was deep and wide as well as long. Tail was long and thin near the end, like a whip. Peg-like teeth for stripping leaves from branches.

Machimosaurus: Croc-line archosaur from Europe. Could exceed 7 meters in length. Crocodile-like build, snout was long & narrow. Lived in open seas, may have specialized in eating marine turtles.

Allosaurus: Carnivorous dinosaur from western USA & Portugal. 12 meters long, weighed about the same as a rhino. Had large hooked claws on its front legs & pointed horns in front of its eyes. One of the most common late Jurassic predators.

Megalosaurus: Carnivorous dinosaur from England. Rhino-sized, 9 meters long. Medium sized predatory dinosaur, and also the first one ever discovered, but remains are so fragmentary that little is known about this it.

Ceratops: Carnivorous dinosaur from western USA. Horse-sized, 7 meters long. Bore short horns over each eye plus one on the nose, likely for showing off. Teeth in the upper jaw were extremely long, yet thin.

Stegosaurus: Herbivorous dinosaur from western USA with tall, bony plates along its back. 9 – 10 meters long, weighed as much as a large rhino, but with a small head. Tail had four large spikes at the tip, used for self-defence.

Dilophosaurus: Carnivorous dinosaur from Arizona. Bear sized, 6 meters long. Jaws had long, curved teeth yet a relatively weak bite. Paired crests on the head likely for showing off. Despite what's shown in movies, it did not have frills on its neck, and was not venomous.

Massospondylus: Primitive long-necked dinosaur from South Africa. 4 – 6 meters long, weighed about as much as a lion. Likely walked on two legs, had a hooked thumb claw on each hand, perhaps for defense.

Gargyleosaurus: Armored plant-eating dinosaur from western USA. 4 meters long. Covered in flat bony plates with a row of spikes down its sides.

Ornitholestes: Small meat-eating dinosaur from western USA. 2 meters long, weight as much as a beaver. Long legs and hands adapted for chasing after and catching small prey.

Sphenosuchus: Early, distant relative of modern crocodiles. From South Africa, 1.5 meters long. Likely four-legged, and lived on land.

Dimorphodon: Primitive crow-sized pterosaur from England. Had a large triangular skull and thin, rudder-like tail for steering in air. Fast bite with pointed teeth, may have eaten small reptiles, mammals, or fish.

Tianyulong: Chicken-sized herbivorous dinosaur from China. Bipedal, 70 cm long. Tusk-like teeth at the front of the jaws. Covered in a feather-like fuzz in life.

Pterodactylus: Crow-sized pterosaur from Germany. Long, narrow jaws with small, sharp teeth. Lived in a series of dry islands in a shallow sea, may have fed on fish and other sea life.

Archaeopteryx: Primitive bird from Germany. Raven sized, half a meter long. Lived in a series of dry islands in a shallow sea. Toothed jaws, may have hunted small prey on the ground. Short, round wings poorly suited for extended flying, perhaps capable of short bursts of flight between perches on low shrubs.

Cretaceous

Argentinosaurus: Gigantic long-necked sauropod dinosaur from Argentina. At least 100 feet long, ten or more elephants in weight. Largest dinosaur known from good fossil evidence.

Tyrannosaurus: Huge theropod dinosaur from western North America. Over 12 meters long, weighed as much as an elephant. Excellent senses of sight and smell. Strongest bite force of any animal, jaws contained serrated, banana-sized teeth.

Spinosaurus: Huge theropod dinosaur from northern Africa. 16 meters long or more, weighed as much as at least one elephant. Relatively large forelimbs with hooked claws, hind limbs may have been fairly small. Bizarre display sail on its back. Likely lived in or along rivers and swamps, caught car-sized fish in its long, crocodile-like snout.

Deinosuchus: Crocodilian related to modern alligators from North America, some species as big as a *Tyrannosaurus*. Despite its huge size, likely looked and behaved similar to modern alligators. Largest species may have preyed on dinosaurs as well as fish, turtles, and marine reptiles.

Zuul: Rhino-sized herbivorous dinosaur from Montana, 6 meters long. Heavily armored, covered in flat bony plates and pointed spikes. Bony tail club likely used for defense against predators.

Pachyrhinosaurus: Herbivorous dinosaur from Alberta & Alaska. 5 - 8 meters long, as big as a large rhino. Bony frill lined with spikes, studs, and hooks likely for display. Horns flattened into thick 'bosses' likely used for ramming other dinosaurs. Lived in enormous herds.

Parasaurolophus: Herbivorous duck-billed dinosaur from western North America. Up to 10 meters long, weighted as much as a large rhino or more. Long, tube-shaped crest with hollow inner tubes extending backwards from the head may have amplified its calls like a trombone.

Borealopelta: Rhino-sized armored dinosaur from Alberta, 8 meters long. Herbivore with long, pointed shoulder spikes likely used for display and defense. Reddish-brown upper body colour with pale underparts may have helped it hide from predators.

Nigersaurus: 9 meter long herbivorous sauropod from Niger. Weighed as much as an elephant. Modest body size and neck-length for a sauropod dinosaur. Down-turned mouth was wide and flat at the front, with many small peg-like teeth for grazing.

Deinonychus: Wolf-sized carnivorous dinosaur from western USA, 4 meters long. Large hooked 'killing claw' on feet used to help grasp and pin down prey, while bites from sharp serrated teeth did much of the actually killing. Long, rigid tail for balance. Was feathered in life.

Troodon: Wolf-sized carnivorous dinosaur from western North America, 2.5 meters long. Large eyes and brain indicate it was a vision-based hunter. Long legs and feet made it a fast runner, likely chased down a variety of small prey. Possibly hunted at night much of the time.

Pachycephalosaurus: Bear-sized herbivorous dinosaur from western North America, 5 meters long. Bipedal with small arms. Thick, dome-shaped skull top likely used for head-based combat. Skull fringed with pointed spikes.

Pteranodon: Human-sized pterosaur from central-western USA, wingspan up to 6 meters. Lived over inland seaway. Toothless beak indicates it likely ate fish. May have caught food on the wing, while swimming, or possibly dove for them like a gannet.

Simosuchus: Armored croc-line reptile from Madagascar. Dog-sized, 1 meter long. Broad, pug-nosed skull and leaf-shaped teeth indicate it was likely an herbivore.

Asteriornis: Small, grouse-like bird from Belgium. Early relative of modern waterfowl and gamebirds. Downturned beak, likely pecked at plants and seeds from the ground.

Yi: Bizarre pigeon-sized dinosaur from China. May have spent most of its time in trees. Covered in feathers, yet long wings and arms supported a bat-like wing of skin membranes. Likely more of a glider than flyer. May have fed on insects and other small animals.

Cenozoic

Purussaurus: Huge 10 meter long caiman-type crocodilian from Miocene of South America. Broad, flat skull used for crushing and feeding of variety of prey like giant turtles, large mammals, fish, birds, anything else it could catch.

Dromornis: Large flightless bird from Miocene-Pliocene Australia. Horse-sized, 3 meters tall. Distantly related to modern ducks and geese. Long neck and curved beak indicate it likely ate leaves, stems, and fruit from plants.

Vorombe: Large flightless bird from Madagascar, 3 meters tall, horse-sized. Part of elephant bird family that went extinct roughly 1000 years ago. Built like a large ostrich.

Dinornis: Large flightless bird from New Zealand, nearly 4 meters tall, weighed similar to a female elk. Short, curved beak and long neck for pecking at shrubs and trees.

Crocodylus: Modern crocodiles. Several species inhabiting sub-tropical and tropical regions worldwide. Largest, Saltwater crocodile of Australia & SE Asia, may grow up to 6 meters long. Aquatic ambush predators.

Alligator: Modern alligators. 2 living species, one from China and one from southern USA. American species may reach 4 meters in length, Chinese species half this size. Ambush predators in freshwater rivers, swamps, and lakes.

Pelagornis: Large flying bird from Oligocene-Pleistocene, found throughout the world. 6 meter long wingspan. Likely lived near the ocean, soaring over to catch fish. Edge of the beak was lined with sharp, tooth-like bony projections.

Titanis: Flightless 'terror bird' from Pliocene-Pleistocene of southern USA. 2.5 meters tall, weight of a modern elk. Long legs adapted for chasing prey, which were pecked and torn at by large, hooked beak.

Gastornis: Large flightless bird from Paleocene-Eocene of North America and Europe. 2 meters tall. Deep, curved bill likely used to feed on nuts and fruits.

Teratornis: Large flying bird from Pleistocene of western USA. Nearly 4 meter long wingspan. Once thought to be a vulture-like scavenger, newer research suggests it may have dove after fish like an osprey.

Caiman: Genus of modern caimans from Central and South America. Relatively small, reaching up to 3 meters long. Ambush predators with short, alligator-like skulls.

Pelecanus: Modern pelicans, found worldwide. Live in and around water. Largest species have wingspans up to 3 meters long. Bill is long and narrow, with an expandable pouch at the bottom for catching fish in.

Sebecus: Distant relative of modern crocodiles from Eocene of South America. Named after ancient Egyptian crocodile god Sobek. Snout was short, deep, and narrow side-to-side. May have had long legs and lived on land.

Inkayacu: Large early penguin from Eocene of Peru. 1.5 meters long, slightly larger than modern Emperor Penguin. Unusual for a penguin, fossilized feathers show it was likely grey on top and reddish-brown underneath.

Cygnus: Modern swans, 6 living species found in North and South America, Eurasia, and Australia. Wingspan can reach 3 meters in length or more. Long neck for feeding on underwater plants, also eats seeds and grains from fields during migration. Can be aggressively defensive.

Mellisuga: Modern bee hummingbirds from the Caribbean. Smallest unquestioned archosaurs known, average around 2 grams in weight.