

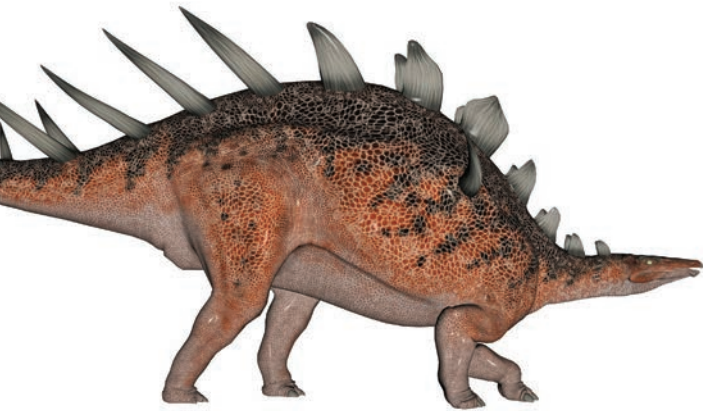
GUIDE TO DINOSAURS







GUIDE TO DINOSAURS



INSTITUTE ^{FOR}
CREATION
RESEARCH



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GUIDE TO DINOSAURS

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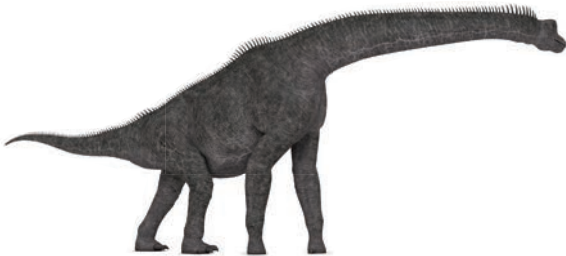
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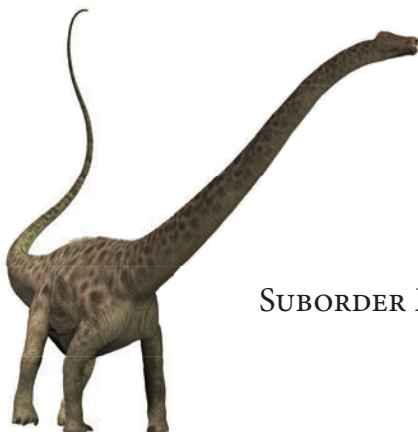
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A prehistoric landscape featuring several dinosaurs. In the foreground, a large, dark green dinosaur with a long neck and a smaller, spotted dinosaur are visible. In the background, there are snow-capped mountains under a blue sky with scattered clouds. The scene is set on a flat, brownish ground with some sparse green grass.

Dinosaur Beginnings and History

Why Study Dinosaurs?

Dinosaurs are fascinating creatures. Seeing them inspires a sense of awe and wonder that sparks the imagination. Whether you are young or young at heart, dinosaurs rarely cease to amaze.

When you think of dinosaurs, you probably imagine the enormous long-necked sauropods or the ferocious *Tyrannosaurus rex*. But dinosaurs came in many different sizes, from as small as a chicken to large enough to reach the tops of tall trees. Some dinosaurs could walk on two feet, while others moved on all four limbs.

As we study dinosaurs we can learn a lot about them, but we also come across many questions. Are dinosaurs mentioned in the Bible? Are they millions of years old? Did humans live at the same time as dinosaurs? Were dinosaurs on the Ark? If they were, how did they all fit? When did God create them? How did dinosaurs go extinct? Did they evolve into birds? These are valid questions, and we will address them and many others in this book.



DINOSAURS CREATED ON DAY 6

The book of Genesis describes how all the animals that moved along the ground, including the dinosaurs, came into existence on Day 6 of the creation week:

Then God said, "Let the earth bring forth the living creature according to its kind: cattle and creeping thing and beast of the earth, each according to its kind"; and it was so. And God made the beast of the earth according to its kind, cattle according to its kind, and everything that creeps on the earth according to its kind. And God saw that it was good.
(Genesis 1:24-25)

The subsequent verses (Genesis 1:26-28) describe the creation of humans and how God gave them (and us) dominion over all the animals He had created, including birds and fish.

THE FIRST BOOK OF MOSES, CALLED
GENESIS

CHAPTER 1

At the beginning God created the heaven and the earth. And there was darkness, and the earth was without form, and darkness was upon the deep; and the Spirit of God moved upon the face of the waters. And God said, Let there be light, and there was light. And God saw the light, that it was good; and God divided the light from the darkness. And God called the light Day, and the darkness he called Night. And the evening and the morning were the first day. And God said, Let there be a firmament in the midst of the waters, and let it divide the waters above the waters, and let it divide the waters which were under the firmament, and let it be fruitful, and multiply, and fill the waters in the seas, and let it bring forth abundantly, after their kind, every living creature which hath life. And God said, Let the earth bring forth the living creature according to its kind, cattle and creeping thing and beast of the earth, each according to its kind; and it was so. And God made the beast of the earth according to its kind, cattle according to its kind, and everything that creeps on the earth according to its kind. And God saw that it was good.
(Genesis 1:1-25)



The Bible also states that there was no death before Adam and Eve sinned and that the animals were created as herbivores (Genesis 1:29-30). Animals began to eat one another after the Fall, but it is unclear whether this happened gradually or suddenly. Even today, paleontologists have to speculate from dinosaur teeth, jaw structure, and fossil dung as to what dinosaurs ate. Tooth shape alone does not indicate diet since some animals today with sharp teeth (such as fruit bats) are strictly or mostly vegetarian. Many “meat eating” dinosaurs may have remained herbivores, using their sharp teeth to break through the tough skins of fruits and rough exteriors of roots.

ERA	PERIOD	EPOCH	SUCCESION OF LIFE	INDEX FOSSILS
CENOZOIC “Recent Life”	QUATERNARY Man	Holocene Pleistocene		PECTEN NEPTUNEA
	TERTIARY Mammals	Pliocene Miocene Oligocene Eocene Paleocene		CALYPTROPHORUS VENERICARDIA
MESOZOIC “Middle Life”	CRETACEOUS Modern Seed-Bearing Plants. Dinosaurs		SCAPHITES INOCERAMUS	
	JURASSIC Lowest Birds		NERINA PERISPINCTES	
	TRIASSIC Cycads. Dinosaurs		TROPHITES MONOTIS	
PALEOZOIC “Ancient Life”	PERMIAN Lowest Reptiles		LEPTODUS PARAFUSULINA	
	PENNSYLVANIAN Lowest Insects		DICTYOCLOSTUS	
	MISSISSIPPIAN Many Crinoids		PROLECANITES	
	DEVONIAN Lowest Seed Plants Cartilage Fish		CACTOCRINUS	
	SILURIAN Lowest Land Animals		PALMATOLEPUS MUCROSPIRIFER	
	ORDOVICIAN Bony Fish		HEXAMOCERAS CRYSTIPHYLLUM	
	CAMBRIAN Invertebrate Animals, Brachiopods, Trilobites		BATHYRUS (Trilobite) TETRAGRAPTUS PARADOXIDES (Trilobite) BILLINGSSELLA	
PRECAMBRIAN	EDIACARAN Very few fossils present (bacteria/algae/pollen?)			

Most textbooks state that dinosaurs lived only from the upper Triassic Period through the Jurassic Period and went extinct at the end of the Cretaceous Period, during a section of time known as the Mesozoic Era supposedly 225 to 65 million years ago. But researchers have found dinosaur bones in rocks even deeper down in middle Triassic rocks in Tanzania. And small dinosaur footprints have been reported in Poland that go deeper still to lower Triassic rocks (presumed to be 250 million years old). The uniformitarian view, which holds that Earth’s natural processes weren’t much different in the past than they are today, considers that these different strata represent millions of years of deposition. However, these rock layers look more like they were deposited during the year-long Flood that occurred just several thousand years ago. The dinosaurs are found in layers deposited later in the Flood. They are in higher strata since they likely were more mobile and lived at higher elevations than other animals and sea creatures.

What Is a Dinosaur?

The group name Dinosauria was first used by Sir Richard Owen in 1841 in an address to the British Association for the Advancement of Science. He later published the term in 1842. He was the first to recognize that dinosaurs (from Greek words meaning “fearfully great reptile”) were a distinct group of reptiles that were different from today’s lizards.



Richard Owen

Owen defined dinosaurs as reptiles that walked erect, having a posture similar to elephants and rhinoceroses. He determined this from their hip structure and the holes in the hip sockets. However, there were some early paleontologists who still thought dinosaurs walked in the sprawling, belly-dragging style of modern alligators and crocodiles. Owen’s interpretation won the day after further examination of the large rib cages of dinosaurs, which could only fit with long, straight legs. Paleontologists never found belly-dragging marks with dinosaur footprints (with one possible exception where the dinosaurs were mired up to their hips in mud). In-

stead, they discovered a multitude of dinosaur footprints following narrow trackways.

Another British paleontologist, Harry Seeley, later divided the dinosaurs into two categories based on their hip styles. He called one group the ornithischia (bird-hipped style) and the other the saurischia (lizard-hipped style). All dinosaurs can be classified into one hip style or the other. Although the pelvic bones of the saurischia resemble a lizard, these dinosaurs still had hip sockets for walking upright.



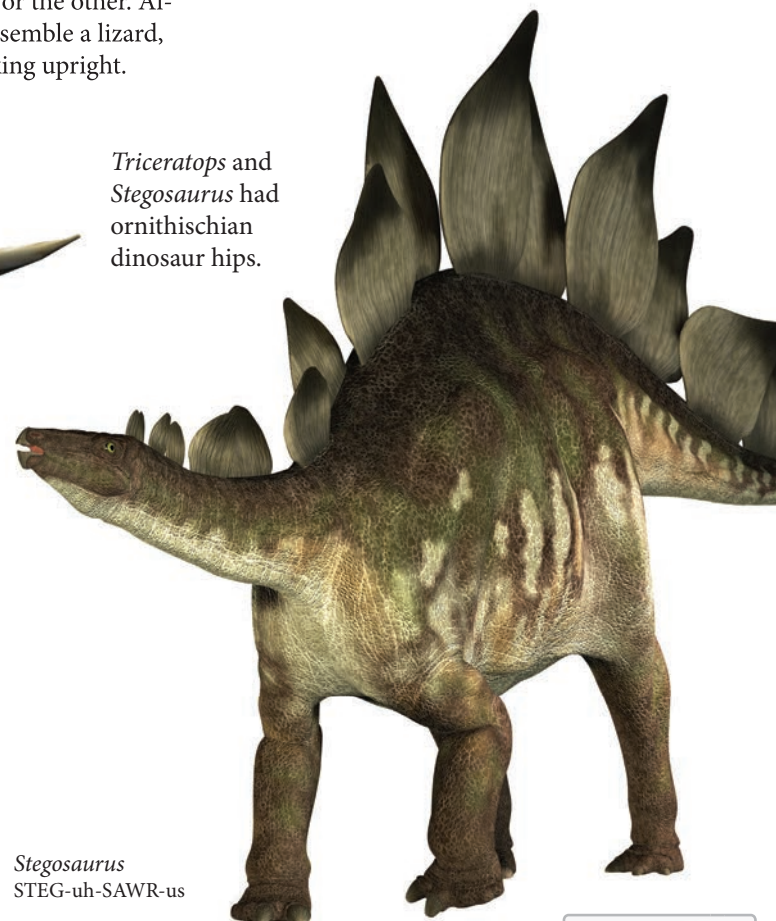
Harry Seeley

DID YOU KNOW?

Dinosaurs did not have wings, flippers, or fins. Dinosaurs walked, and occasionally ran, on land. Other reptiles flew or had fins to swim, but they are not classified as dinosaurs.



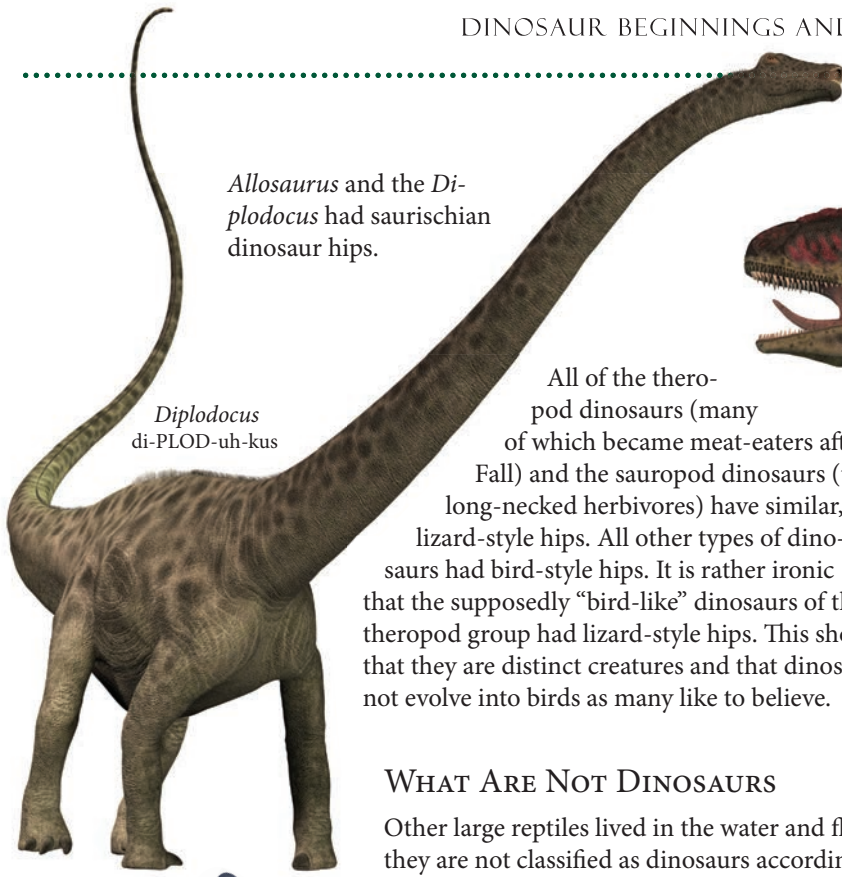
Triceratops
try-SEH-ruh-tops



Stegosaurus
STEG-uh-SAWR-us

Triceratops and *Stegosaurus* had ornithischian dinosaur hips.

Allosaurus and the *Diplodocus* had saurischian dinosaur hips.



Diplodocus
di-PLOD-uh-kus

All of the theropod dinosaurs (many of which became meat-eaters after the Fall) and the sauropod dinosaurs (the long-necked herbivores) have similar, lizard-style hips. All other types of dinosaurs had bird-style hips. It is rather ironic that the supposedly “bird-like” dinosaurs of the theropod group had lizard-style hips. This shows that they are distinct creatures and that dinosaurs did not evolve into birds as many like to believe.



Allosaurus
AL-oh-SAWR-us

WHAT ARE NOT DINOSAURS

Other large reptiles lived in the water and flew in the air, but they are not classified as dinosaurs according to Richard Owen’s definition. Swimming reptiles lived in the marine realm and did not walk or have the hip structures that dinosaurs had. These creatures were perfectly designed for aquatic life.



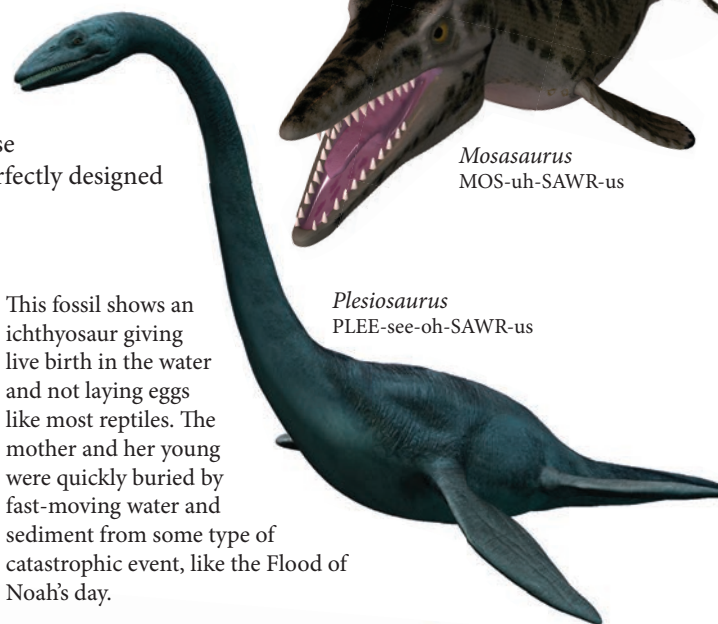
Ichthyosaurus
ICK-thee-uh-SAWR-us



Mosasaurus
MOS-uh-SAWR-us



This fossil shows an ichthyosaur giving live birth in the water and not laying eggs like most reptiles. The mother and her young were quickly buried by fast-moving water and sediment from some type of catastrophic event, like the Flood of Noah’s day.



Plesiosaurus
PLEE-see-oh-SAWR-us

Many extinct sail-backed reptiles, like *Dimetrodon* (which grew to lengths of nearly 10 feet), are similar to lizards we see today because they had sprawling hips and legs that extended outward from their bodies. These animals were not dinosaurs either.



Dimetrodon
dye-MET-ruh-don



Pterodactyl
TARE-oh-DAK-til

Pterosaurs were flying reptiles that were also not dinosaurs. They flew differently than birds or bats. They had an extended system of finger bones, starting with the fourth metacarpal, which was attached to four elongated phalanges that supported a flight membrane made of skin like bats’ wings. The remaining three fingers were short claws on the front of the wings.

Dinosaurs in the Bible

The Bible says that God created all the land animals on Day 6 of the creation week, and this would have included the dinosaurs. Genesis 1:25 states, “And God made the beast of the earth according to its kind, cattle according to its kind, and everything that creeps on the earth according to its kind. And God saw that it was good.” Some dinosaurs were small and could be categorized as “creeping things,” while others were large and fell under the “beast[s] of the earth” category.

The Bible does not contain the word “dinosaur” since it was translated into English centuries before the term existed. However, ancient texts, including the Bible, contain descriptions of creatures that match known dinosaurs.

BEHEMOTH

The book of Job, which is probably the oldest book of the Bible, contains this passage:

Look now at the behemoth, which I made along with you; He eats grass like an ox. See now, his strength is in his hips, And his power is in his stomach muscles. He moves his tail like a cedar; The sinews of his thighs are tightly knit. His bones are like beams of bronze, His ribs like bars of iron. (Job 40:15-18)

This seems to describe a huge animal with a long neck that ate grass—much like a sauropod such as the *Brachiosaurus* pictured here. Until recently, most secular paleontologists believed that grasses did not exist during the time in which the dinosaurs lived. However, fossilized dinosaur dung (coprolites) from upper Cretaceous rocks of India show that sauropods did eat grass.



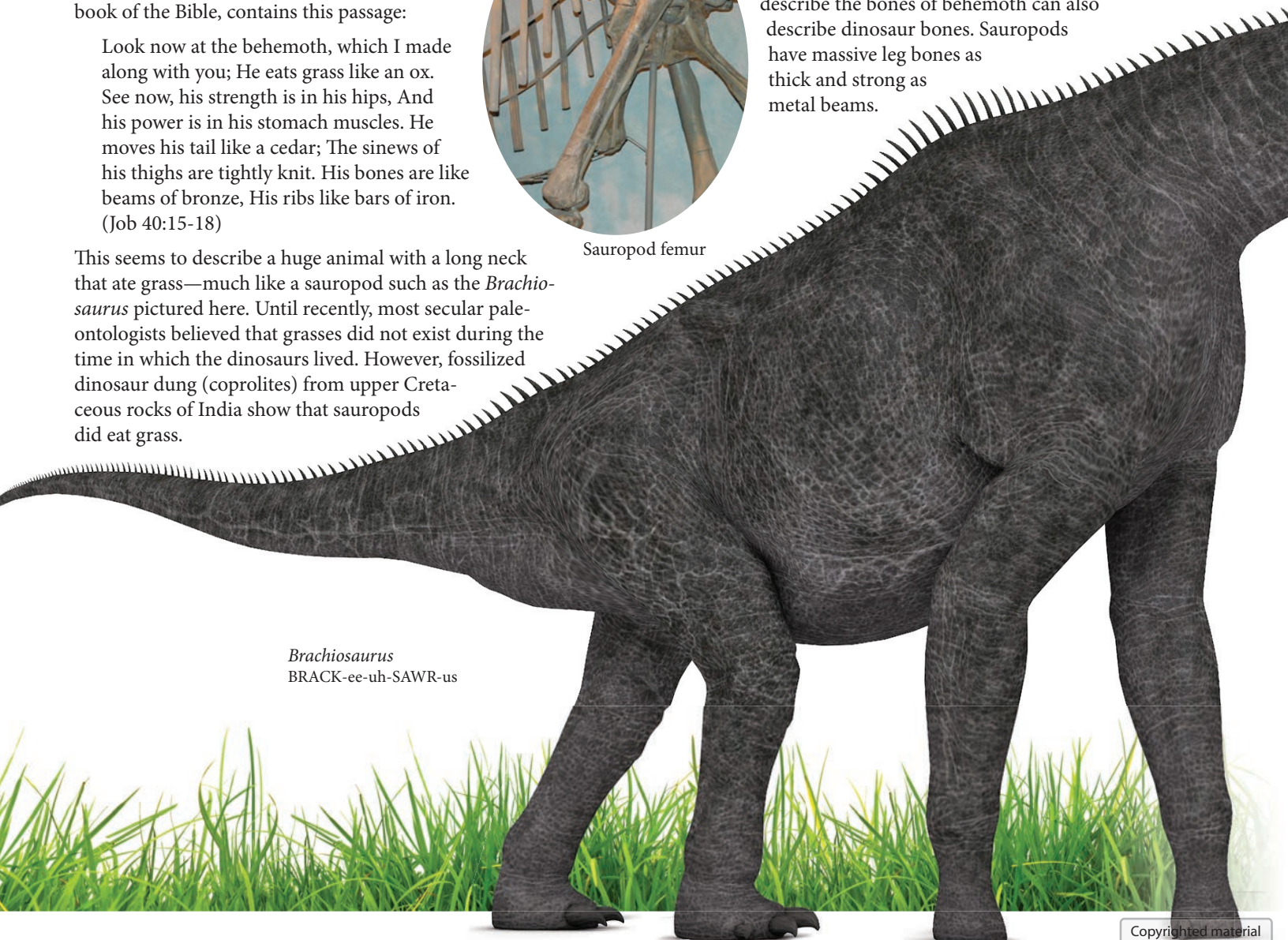
Sauropod femur

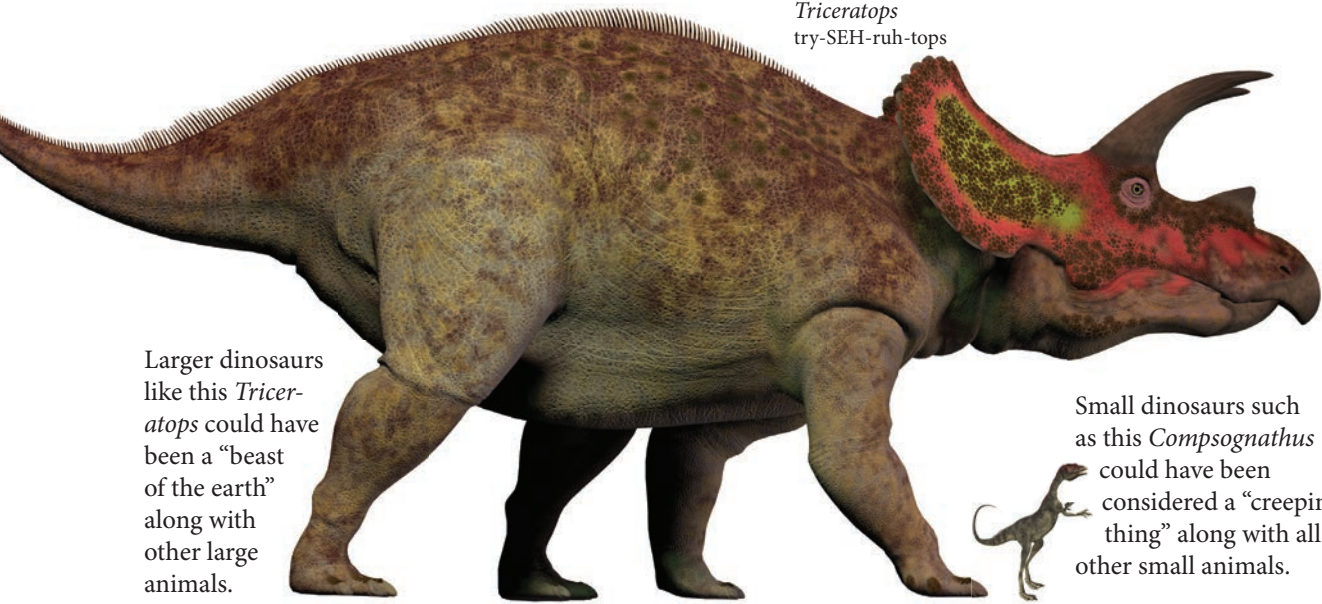
TANNIN

The term “dragon” appears over 20 times in the Bible, translated into English from the related Hebrew words *tannin* and *tannim*. These words can also be translated as “monster,” “serpent,” and “sea monster.” Psalm 74:13 refers to sea dragons, which could have possibly meant swimming reptiles such as the plesiosaur or mosasaur. Isaiah 30:6 also mentions flying serpents or reptiles, possibly a pterosaur. While those are not dinosaurs according to modern definitions, Isaiah 34 in the King James Version does mention land dragons, which were possibly dinosaurs.

The words “beams of bronze” used to describe the bones of behemoth can also describe dinosaur bones. Sauropods have massive leg bones as thick and strong as metal beams.

Brachiosaurus
BRACK-ee-uh-SAWR-us





Triceratops
try-SEH-ruh-tops

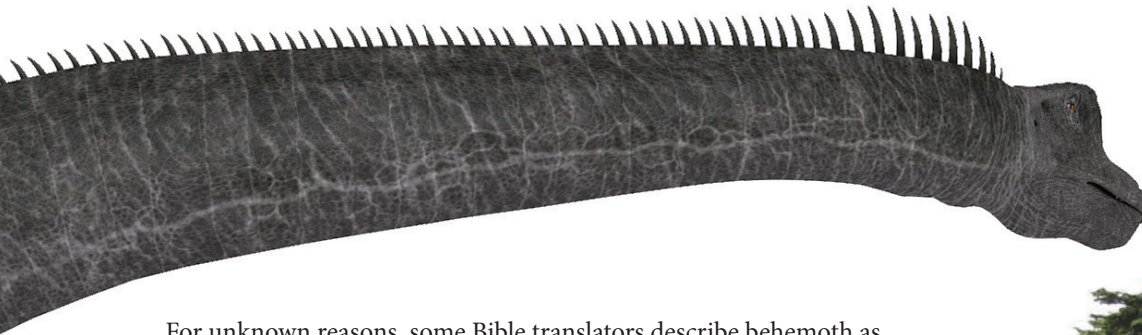
Larger dinosaurs like this *Triceratops* could have been a “beast of the earth” along with other large animals.



Small dinosaurs such as this *Compsognathus* could have been considered a “creeping thing” along with all other small animals.



Compsognathus
COMP-sog-NATH-us



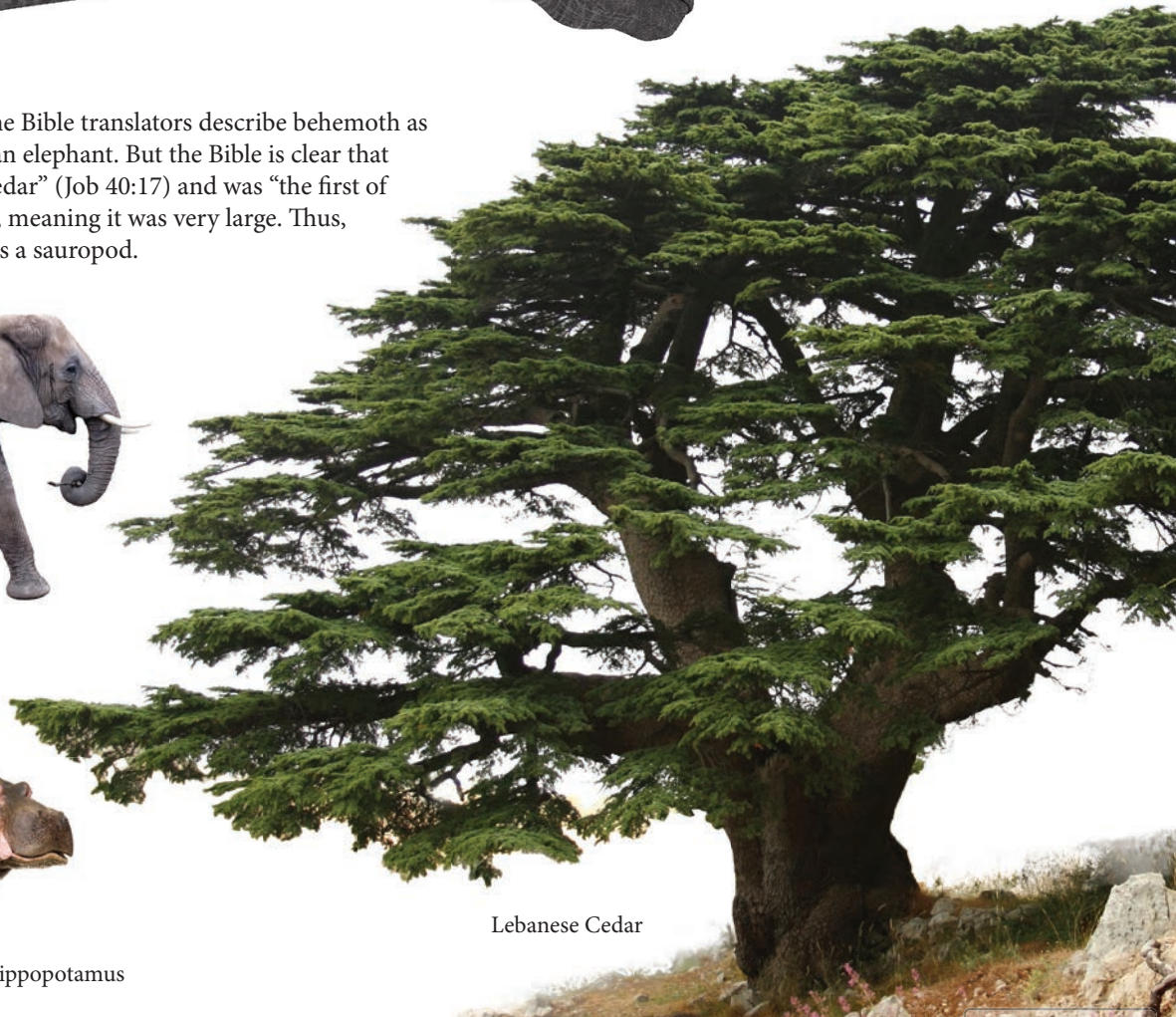
For unknown reasons, some Bible translators describe behemoth as a hippopotamus or possibly an elephant. But the Bible is clear that behemoth had a “tail like a cedar” (Job 40:17) and was “the first of the ways of God” (Job 40:19), meaning it was very large. Thus, the Bible’s description best fits a sauropod.



Elephant



Hippopotamus



Lebanese Cedar