

**Primitive Dinosauromorphs—Dinosaurs' Closest Relatives (Chapter 11)**

These animals are not true dinosaurs, but they are the closest relatives to the dinosaurs that we know of.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Lagosuchus</i>	rabbit crocodile	Middle Triassic	(242-235 MYA)	1.7 ft (51 cm)	Pigeon	Argentina	<i>Marasuchus</i> may be the same species.
<i>Marasuchus</i>	mara [South American rodent that looks and acts like a rabbit] crocodile	Middle Triassic	(242-235 MYA)	1.7 ft (51 cm)	Pigeon	Argentina	Originally considered a type of <i>Lagosuchus</i> .
<i>Saltopus</i>	jumping foot	Late Triassic	(228-204 MYA)	2 ft (60 cm)	Pigeon	Scotland	<i>Saltopus</i> is known only from the spaces left in the rock where its bones had dissolved away: a sort of "negative fossil."
<i>Scleromochlus</i>	hard fulcrum	Late Triassic	(228-204 MYA)	8 in (20 cm)	Sparrow	Scotland	Thought by some to be the ancestor of the pterosaurs (flying reptiles).
<i>Spondylosoma</i>	vertebral body	Middle Triassic	(242-235 MYA)	?	?	Brazil	May actually be a mixture of primitive dinosauromorph, early dinosaur, and other archosaur bones.
<i>Teyuwasu</i>	big lizard	Late Triassic	(235-228 MYA)	?	Beaver	Brazil	Known only from the thigh and shin of its right leg.
<i>Trialestes</i>	thief of the Triassic	Late Triassic	(235-228 MYA)	?	Turkey	Argentina	The arm of this skeleton may actually belong to a primitive crocodile relative.

**\*\* Lagerpetonids—Primitive Types of the Dinosaurs' Closest Relatives (Chapter 11)**

Recent work shows that these primitive dinosauromorphs form a distinct group.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Dromomeron</i>	running femur	Late Triassic	(235-228 MYA)	2.6 ft (80 cm)	Chicken	Arizona, New Mexico, Texas	Very similar to Argentina's <i>Lagerpeton</i> .
<i>Lagerpeton</i>	rabbit reptile	Middle Triassic	(242-235 MYA)	2.6 ft (80 cm)	Chicken	Argentina	May have hopped like a rabbit.

**\*\* Silesaurids—Dinosaurs' Very Closest Relatives (Chapter 11)**

Since the book was published, new discoveries show that close relatives of *Silesaurus* were fairly common in the Triassic. These are, at present, the closest relatives known to the dinosaurs. Recent discoveries show that many fragmentary fossils thought to be Triassic ornithischian dinosaurs are either from silesaurids or from a newly-discovered group of plant-eating crocodile relatives (the reveultosaurs).

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Asilisaurus</i>	ancestor reptile	Middle Triassic	(245-237 MYA)	3.8ft (1.2 m)	Chicken	Tanzania	The oldest dinosauromorph known from bony fossils (there are footprints which are older).
<i>Crosbysaurus</i>	Crosby County [Texas] reptile	Late Triassic	(235-228 MYA)	?	Chicken?	Arizona, Texas	Known only from teeth. Thought by some to be an early ornithischian dinosaur. May actually be from a crocodile relative rather than a dinosauromorph.
* <i>Diodorus</i>	for legendary king of the Berbers Diodorus and for ancient Greek historian Diodorus Siculus	Late Triassic	(235-228 MYA)	7.5 ft (2.3 m)?	Turkey?	Morocco	A close relative of <i>Sacisaurus</i> .
<i>Galtonia</i>	for [American paleontologist Peter] Galton	Late Triassic	(235-228 MYA)	?	Turkey?	Pennsylvania	Known only from teeth first thought to be from a prosauropod. May be from a primitive plant-eating crocodile relative rather than a dinosauromorph.
<i>Eucoelophysis</i>	true <i>Coelophysis</i>	Late Triassic	(235-228 MYA)	9.8 ft (3 m)	Beaver	New Mexico	Once thought to be a coelophysoid theropod.
<i>Krzyzanowskisaurus</i>	[American fossil collector Stan] Krzyzanowski's reptile	Late Triassic	(235-228 MYA)	?	?	Arizona, New Mexico	Known only from teeth, very likely from a plant-eating crocodile relative rather than a dinosauromorph.
<i>Lewisuchus</i>	[American fossil preparator Arnold] Lewis's crocodile	Middle Triassic	(242-235 MYA)	3.8ft (1.2 m)	Chicken	Argentina	Some consider it the same creature as <i>Pseudolagosuchus</i> ; others think it is a primitive relative of crocodiles.
<i>Lucianosaurus</i>	Luciano Mesa [New Mexico] reptile	Late Triassic	(228-204 MYA)	?	Turkey?	New Mexico	Known only from teeth. May be from a primitive plant-eating crocodile relative rather than a dinosauromorph.
<i>Pekinosaurus</i>	Pekin Formation reptile	Late Triassic	(235-228 MYA)	?	Chicken?	North Carolina	Known only from teeth. May be from a primitive plant-eating crocodile relative rather than a dinosauromorph.
<i>Protecovasaurus</i>	before <i>Tecovasaurus</i>	Late Triassic	(235-228 MYA)	?	Chicken?	Texas	Known from teeth, once thought to be from an omnivorous ornithischian. May be from a plant-eating crocodile relative rather than a dinosauromorph.
<i>Pseudolagosuchus</i>	false <i>Lagosuchus</i>	Middle Triassic	(242-235 MYA)	4.3 ft (1.3 m)	Chicken	Argentina	Possibly the same species as <i>Lewisuchus</i> .
* <i>Sacisaurus</i>	Saci [legendary one-legged creature in Brazilian folklore] reptile	Late Triassic	(235-228 MYA)	7.5 ft (2.3 m)	Turkey	Brazil	Similar to <i>Silesaurus</i> ; had a toothless front portion to the dentary somewhat similar to the predentary bone of ornithischian dinosaurs
<i>Silesaurus</i>	Silesia [Poland] reptile	Late Triassic	(235-228 MYA)	7.5 ft (2.3 m)	Turkey	Poland	Known from many individuals. Among the closest relatives of the dinosaurs currently known.
<i>Technosaurus</i>	Texas Tech University reptile	Late Triassic	(235-228 MYA)	3.3 ft (1 m)?	Beaver	Texas	Known from a partial skull, a vertebra, and a few other bones. Once thought to be a primitive ornithischian.

<i>Tecovasaurus</i>	Tecovas Formation reptile	Late Triassic	(235-228 MYA)	?	Beaver?	France; Arizona, Texas	Known only from teeth. Once thought to be from a primitive ornithischian, but more likely from silesaurs or crocodile relatives.
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**Primitive Saurischians—Early Lizard-Hipped Dinosaurs (Chapter 12)**

These dinosaurs are members of the group Saurischia, but it is debatable whether they are the oldest and most primitive members of the group Theropoda or if they instead branched off from the family tree before the common ancestor of theropods and sauropodomorphs (together the Eusaurischia, or "true saurischians").

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Alwalkeria</i>	for [British paleontologist] Alick Walker	Late Triassic	(228-203.6 MYA)	1.6 ft (50 cm)?	Turkey	India	Only known from a collection of bones, probably representing more than one type of animal! At least some of the bones are probably from an early saurischian.
<i>Sinosaurus</i>	Chinese reptile	Early Jurassic	(199.6-183 MYA)	?	?	China	Only known from a chunk of jaw with some teeth. May be a primitive carnivorous saurischian, true theropod, or non-dinosaur carnivore.

**Herrerasaurs—Most Primitive Theropods (Chapter 12)**

These dinosaurs are all members of Herrerasauria, a group of extremely primitive theropods. Some paleontologists once considered them to be outside of Theropoda proper, and simply primitive carnivorous saurischians.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Caseosaurus</i>	[American paleontologist E. C.] Case's reptile	Late Triassic	(235-228 MYA)	6.6 ft (2 m)?	Wolf?	Texas	May be the same species as <i>Chindesaurus</i> . Very poorly known at present.
<i>Chindesaurus</i>	Chinde Point [Arizona] reptile	Late Triassic	(235-228 MYA)	6.6 ft (2 m)?	Wolf?	Arizona, New Mexico	The first specimen found was nicknamed "Gertie," after an early cartoon dinosaur.
<i>Herrerasaurus</i>	[Argentine farmer Victorino] Herrera's reptile	Late Triassic	(235-228 MYA)	13.1 ft (4 m)	Grizzly bear	Argentina	A powerful hunter, but was probably eaten by the much larger larger rauisuchian predator <i>Saurosuchus</i> .
* <i>Sanjuansaurus</i>	San Juan [Province, Argentina] reptile	Late Triassic	(235-228 MYA)	10 ft (3 m)	Sheep	Argentina	A contemporary of <i>Herrerasaurus</i> ; unlike that genus, the pubis points fully-forward in <i>Sanjuansaurus</i> .
<i>Staurikosaurus</i>	Southern Cross reptile	Late Triassic	(235-228 MYA)	6.6 ft (2 m)	Wolf	Brazil	For many years, this was the oldest and most primitive known dinosaur.

**\*\* Primitive Theropods—Early Carnivorous Dinosaurs (Chapter 12)**

These dinosaurs are members of Theropoda, intermediate between the very primitive Herrerasauria and the advanced Neotheropoda (coelophysoids, dilophosaurids, ceratosaurs, and tetanurines).

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Daemonosaurus</i>	demon reptile	Late Triassic	(204-201.6 MYA)	7.2 ft (2.2 m)	Beaver	New Mexico	Known from a very good skull and other partial remains. Has a short blunt snout with "buck" teeth.
* <i>Eodromaeus</i>	dawn runner	Late Triassic	(235-228 MYA)	5 ft (1.5 m)	Beaver	Argentina	Known from nearly all the skull and skeleton. More closely related to <i>Tawa</i> and the advanced theropods than to herrerasaurs.
* <i>Tawa</i>	Tawa, sun god of the Puebloan Native Americans	Late Triassic	(216.5-203 MYA)	6.5 ft (2 m)	Wolf	New Mexico	Known from several excellent skeletons, a transitional form between primitive theropods like <i>Eodromaeus</i> and the herrerasaurs and advanced theropods. Like coelophysoids and dilophosaurids it has a kink in its snout.

**Coelophysoids—Early Kink-Snouted Dinosaurs (Chapter 13)**

*Coelophysis* and its relatives have often been placed in a single group Coelophisoidea. However, it may be that some coelophysoids are closer to dilophosaurids and more advanced theropods than to *Coelophysis*.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Camposaurus</i>	[American paleontologist Charles Lewis] Camp's reptile	Late Triassic	(235-228 MYA)	9.8 ft (3 m) ?	Beaver	Arizona	Previously considered a possible herrerasaurid. Poorly known. May be the oldest known dinosaur in North America.
<i>Coelophysis</i>	hollow form	Late Triassic	(204-201.6 MYA)	8.9 ft (2.7 m)	Beaver	Arizona, New Mexico	The most completely known coelophysoid. At "Ghost Ranch" quarry dozens of skeletons—many of complete—have been uncovered.
<i>Gojirasaurus</i>	Godzilla reptile	Late Triassic	(228-204 MYA)	18 ft (5.5 m)	Lion	New Mexico	Did not get its name because it was particularly gigantic, nor did it look like the Japanese movie monster Godzilla that much. Its describer—American paleontologist Ken Carpenter—is a big Godzilla fan, so he wanted to name a dinosaur after his "hero." May be an early dilophosaurid or an intermediate form like <i>Zupaysaurus</i> rather than a coelophysoid proper.
<i>Liliensternus</i>	for [German paleontologist Hugo Ruele von] Lilienstern	Late Triassic	(228-204 MYA)	16.9 ft (5.2 m)	Lion	Germany	Although known for many decades, this dinosaur has yet to be completely described.
^ <i>Lophostropheus</i>	crested vertebrae	Early Jurassic	(201.6-196.5 MYA)	9.8 ft (3 m)	Lion	France	Originally considered to be an early species of <i>Liliensternus</i>

<i>Megapnosaurus</i>	big dead reptile	Early Jurassic	(199.6-189.6 MYA)	7.2 ft (2.2 m)	Beaver	South Africa; Zimbabwe; England?	Better known by the name " <i>Syntarsus</i> ," but that is properly the name of a beetle! Considered by some paleontologists to be a late-surviving species of <i>Coelophysis</i> .
<i>Podokesaurus</i>	swift-footed reptile	Early Jurassic	(189.6-175.6 MYA)	4.9 ft (1.5 m)	Turkey	Massachusetts	The original, and so far only definite specimen of this dinosaur was unfortunately destroyed in a museum fire.
<i>Procompsognathus</i>	before <i>Compsognathus</i>	Late Triassic	(228-204 MYA)	3.6 ft (1.1 m)	Chicken	Germany	A tiny coelophysoid, possibly closely related to <i>Segisaurus</i> and <i>Podokesaurus</i> .
<i>Sarcosaurus</i>	flesh reptile	Early Jurassic	(201.6-196.5 MYA)	?	Sheep	England	Various bones are known, but not enough to determine exactly what it looked like.
<i>Segisaurus</i>	Segi Canyon [Arizona]	Early Jurassic	(189.6-175.6 MYA)	4.9 ft (1.5 m)	Turkey	Arizona	Known from a nearly complete skeleton lacking a skull. Once mistakenly thought to have solid bones; further examination shows that they are hollow, just like those of other theropods.
No official genus name; formerly " <i>Syntarsus</i> " <i>kayentakatae</i>		Early Jurassic	(199.6-189.6 MYA)	7.1ft (2.2 m)	Beaver	Arizona	Originally thought to be a species of " <i>Syntarsus</i> " (now <i>Megapnosaurus</i> ). Had a pair of small crests.
No official genus name; formerly " <i>Zanclodon</i> " <i>cambrensis</i>		Late Triassic	(203.6-199.6 MYA)	?	?	England	Known only from a jawbone.
Not yet officially named		Early Jurassic	(199-189.6) MYA	3.6 ft (1.1 m)?	Chicken?	Arizona	Not yet described; a small coelophysoid.

#### \*\* Dilophosaurids and relatives—Larger Kink-Snouted Dinosaurs (Chapter 13)

Once most of these were considered either coelophysoids or primitive tetanurines; now all but *Zupaysaurus* may form a natural group (or, alternatively, may be relatively closer or farther from ceatosaurs and tetanurines.)

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Berberosaurus</i>	Berber (people of northern Africa) reptile	Early Jurassic	(183-175.6 MYA)	20.3 ft (6.2 m)	Lion	Morocco	Initially described as the oldest known definite ceratosaur, and thought either to an abelosaur or a very primitive ceratosaur. Now seems to be a dilophosaurid.
<i>Cryolophosaurus</i>	frozen-crested reptile	Early Jurassic	(189.6-183 MYA)	20 ft (6.1 m)	Horse	Antarctica	Had an unusual flared crest on its head. Once considered a primitive carnosaur or primitive tetanurine.
<i>Dilophosaurus</i>	double-crested reptile	Early Jurassic	(199.6-189.6 MYA)	23 ft (7 m)	Grizzly bear	Arizona	Despite some movie portrayals, this dinosaur did not have a frill, nor is there any evidence that it could shoot poison.
* <i>Dracovenator</i>	dragon hunter	Early Jurassic	(199.6-189.6 MYA)	23 ft (7 m)	Grizzly bear	South Africa	A close relative of <i>Dilophosaurus</i> from South Africa.
^ <i>Kayentavenator</i>	hunter of the Kayenta Formation	Early Jurassic	(199.6-189.6 MYA)	?	Beaver	Arizona	Originally described (and mentioned in the published version of this list) as possibly the oldest known tetanurine; it is more likely a dilophosaurid, and possibly the juvenile of <i>Dilophosaurus</i> itself. Alternatively, it might be the same animal as " <i>Syntarsus</i> " <i>kayentakatae</i> .
<i>Zupaysaurus</i>	devil reptile	Late Triassic	(216.5-199.6MYA)	16.9 ft (5.2 m)	Lion	Argentina	A medium-sized theropod once thought to be the oldest known tetanurine. Intermediate between coelophysoids and more advanced theropods like dilophosaurids.
No official genus name; formerly " <i>Dilophosaurus</i> " <i>sinensis</i>		Early Jurassic	(199.6-183 MYA)	19.7 ft (6 m)	Grizzly bear	China	Originally thought to be a new species of <i>Dilophosaurus</i> because it, too, has a pair of crests on its head.

#### \*\* Elaphrosaurs—Early Swift-Running Ceratosaurs (Chapter 13)

Not yet formally named, a group of primitive ceratosaurs with long slender legs. It is not known if all of them had the toothless beaks (and likely herbivorous diet) of *Limusaurus*, as we do not yet have skulls for the others.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Elaphrosaurus</i>	fleet reptile	Late Jurassic	(155.7-150.8 MYA)	20.3 ft (6.2 m)	Lion	Tanzania; possibly Colorado	Long thought to be the most primitive ornithomimosaur, and still thought by some to be the last of the coelophysoids. Unfortunately, its skull is not known. North American specimens may eventually be recognized as a new genus.
* <i>Limusaurus</i>	slime reptile (referring to the mud in which it was trapped)	Late Jurassic	(161.2-155.7 MYA)	5.6 ft (1.7 m)	Beaver	China	The most completely known elaphrosaur, with a toothless beak very similar to ornithomimids. Almost certainly a herbivore. Its hands are greatly reduced. Specimens have been found trapped in the muddy footprints of a giant sauropod!
<i>Spinostropheus</i>	spine vertebrae	Middle Jurassic	(167.7-164.7MYA)	20.3 ft (6.2 m)	Lion	Niger	Originally considered a species of <i>Elaphrosaurus</i> . Once thought to be Early Cretaceous, but new geological studies show it is much older.

**\*\*Ceratosaurids—Long-Toothed Ceratosaur (Chapter 13)**

*Ceratosaurus* and its closest kin have relatively long broad teeth.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Ceratosaurus</i>	horned reptile	Late Jurassic	(155.7-150.8 MYA)	20 ft (6.1 m)	Horse	Colorado, Utah; Portugal; Tanzania	The most completely known ceratosaur. Had a distinctive narrow horn on its nose and smaller crests in front of each eye. The first large theropod known from a complete skeleton.
<i>Genyodectes</i>	jaw biter	Early Cretaceous	(125-99.6 MYA)	?	Rhino?	Argentina	One of the first dinosaurs discovered in South America. It seems to be a close relative of <i>Ceratosaurus</i> , but is known only from partial jaws.
* No official name yet		Late Jurassic	(155.7-150.8 MYA)	?	Horse?	Tanzania	One or more possible ceratosaurids from the Tendaguru Formation of Tanzania
* No official name yet		Late Jurassic or Early Cretaceous	(155.7-130 MYA)	?	Horse	Uruguay	Only partial remains are known.

**Primitive Ceratosaur—Early Ceratosaur (Chapter 13)**

These dinosaurs are members of Ceratosauria, but they are not part of the "elaphrosaur", Ceratosauridae, Noasauridae or Abelisauridae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Austrocheirus</i>	southern hand	Late Cretaceous	(70.6-65.5 MYA)	24.1 ft (6.5 m)?	Horse?	Argentina	Unlike most other Late Cretaceous ceratosaur its hands are not highly reduced.
<i>Bahariasaurus</i>	Bahariya [Egypt] reptile	Early to Late Cretaceous	(112-93.5 MYA)	39.4 ft (12 m)?	Rhino	Egypt; Niger?	May be the same as <i>Deltadromeus</i> .
<i>Betasuchus</i>	"B" crocodile	Late Cretaceous	(70.6-65.5 MYA)	?	?	Netherlands	Originally thought to be an ornithomimosaur. May be an abelisaurid.
<i>Deltadromeus</i>	delta runner	Early to Late Cretaceous	(112-93.5 MYA)	26.2 ft (8 m)	Rhino	Morocco; Egypt?	Its skull is not known. " <i>Deltadromeus</i> teeth" are sold in rock shops, but we have no idea if those are actually <i>Deltadromeus</i> teeth! Once thought to be a coelurosaur, then a gigantic noasaurid, but now interpreted as a primitive ceratosaur. It may turn out to be a giant elaphrosaur.
<i>Jubbulpuria</i>	from Jabalpur [India]	Late Cretaceous	(70.6-65.5 MYA)	?	?	India	Known from two small vertebrae. May be a noasaurid.
* <i>Kemkem</i>	Kem Kem [Beds]	Late Cretaceous	(99.6-93.6 MYA)	?	?	Morocco	Known only from tail bones.
<i>Lukousaurus</i>	Lukou Bridge [China] reptile	Early Jurassic	(199.6-183 MYA)	?	?	China	Known only from a small front end of a skull. Not necessarily even a dinosaur!
<i>Ozraptor</i>	thief of Oz [nickname of Australia]	Middle Jurassic	(171.6-167.7 MYA)	6.6 ft (2 m)	?	Australia	Known only from an ankle; once thought to be a primitive tetanurine, but now thought to be a ceratosaur close to noasaurids and abelisaurids.
* No official name yet		Late Jurassic	(155.7-150.8 MYA)	?	?	Tanzania	One or more different primitive abelisaurids from the Tendaguru Formation

**Noasaurids—Slender Ceratosaur (Chapter 13)**

The dinosaurs in Noasauridae were a diverse group of slim-legged, fast-running ceratosaur.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Composuchus</i>	delicate crocodile	Late Cretaceous	(70.6-65.5 MYA)	?	?	India	Known only from a neck vertebra.
<i>Genusaurus</i>	knee reptile	Early Cretaceous	(112-99.6 MYA)	9.8 ft (3 m)?	?	France	Once thought to be from an abelisaurid.
<i>Laevisuchus</i>	light crocodile	Late Cretaceous	(70.6-65.5 MYA)	?	?	India	Little is known of this small theropod.
<i>Ligabueino</i>	[Italian dinosaur hunter Giancarlo] Ligabue's reptile	Early Cretaceous	(130-120 MYA)	2.3 ft (70 cm)	?	Argentina	One of the oldest noasaurids.
<i>Masiakasaurus</i>	vicious reptile	Late Cretaceous	(70.6-65.5 MYA)	4.9 ft (1.5 m)	Beaver	Madagascar	The most completely known noasaurid, with very unusual teeth.
<i>Noasaurus</i>	northwest Argentina reptile	Late Cretaceous	(70.6-65.5 MYA)	7.9 ft (2.4 m)	Beaver	Argentina	A large claw on this dinosaur was once thought to be a deinonychosaur-like foot claw, but it is actually a hand claw.
<i>Velocisaurus</i>	swift reptile	Late Cretaceous	(86-83 MYA)	?	Chicken	Argentina	Not much is known beyond its feet.
* Not yet officially named		Early Cretaceous	(125-112 MYA)	?	?	Niger	Even more complete than <i>Masiakasaurus</i> , although lacking a skull.

**Abelisaurids—Stump-Armed Ceratosaur (Chapter 13)**

Abelisauridae consists of the top predators of the Late Cretaceous Epoch in the southern continents. They were characterized by short snouts, relatively small teeth, and very stumpy arms.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Abelisaurus</i>	[Argentine museum director Roberto] Abel's reptile	Late Cretaceous	(83.5-70.6 MYA)	36.3 ft (11 m)?	Rhino	Argentina	The first abelisaurid recognized as belonging to a distinct group. Known only from a large, nearly complete skull.
<i>Aucasaurus</i>	Auca Mahuevo [site in Argentina] reptile	Late Cretaceous	(83-78 MYA)	13.8 ft (4.2 m)	Grizzly bear	Argentina	Known from a very complete, but not yet fully described, skeleton.

<i>Camotaurus</i>	meat[-eating] bull	Late Cretaceous	(83.5-65.5MYA)	26.2 ft (8 m)	Rhino	Argentina	The first abelisaurid known from a relatively complete skeleton (with skin impressions); it showed the highly reduced nature of their forelimbs of these dinosaurs.
<i>Coeluroides</i>	like <i>Coelurus</i>	Late Cretaceous	(70.6-65.5 MYA)	?	?	India	Tail vertebrae similar to, but larger than, those of <i>Jubbulpuria</i> (which is possibly a juvenile of this species).
<i>Dryptosauroides</i>	like <i>Dryptosaurus</i>	Late Cretaceous	(70.6-65.5 MYA)	?	Elephant?	India	Known from tail vertebrae of an abelisaurid larger than <i>Camotaurus</i> .
<i>Ekrixinatosaurus</i>	explosion-born reptile	Late Cretaceous	(99.6-97 MYA)	36.3 ft (11 m)	Rhino	Argentina	Discovered when people were blasting rocks with dynamite: hence the name! Had an extremely broad skull. One of the largest abelisaurids, and particularly short legged.
<i>Ilokelesia</i>	flesh-eating reptile	Late Cretaceous	(97-93.5 MYA)	?	?	Argentina	Once thought to be a more primitive ceratosaur, but recent studies suggest it is a true abelisaurid.
<i>Indosaurus</i>	Indian reptile	Late Cretaceous	(70.6-65.5 MYA)	?	Grizzly bear?	India	Originally known only from a partial skull; a new, more complete skull and skeleton have been discovered but not fully described. Similar to <i>Abelisaurus</i> .
<i>Indosuchus</i>	Indian crocodile	Late Cretaceous	(70.6-65.5 MYA)	?	Horse?	India	Like <i>Indosaurus</i> , it was known for a long time, but was thought to be either a carnosaur or a tyrannosauroid until the discovery of <i>Abelisaurus</i> and <i>Camotaurus</i> showed that there was a distinct group of southern giant theropods.
* <i>Kryptops</i>	hidden face	Early Cretaceous	(125-112 MYA)	20 ft (6.1 m)	Rhino	Niger	Known from a partial skeleton.
<i>Lametasaurus</i>	Lameta Formation reptile	Late Cretaceous	(70.6-65.5 MYA)	?	Horse?	India	Named for a mixture of crocodylian and titanosaur armor found with some abelisaurid bones.
<i>Majungasaurus</i>	Majunga District [Madagascar] reptile	Late Cretaceous	(70.6-65.5 MYA)	29.5 ft (9 m)	Rhino	Madagascar	Sometimes called " <i>Majungatholus</i> ." Originally thought to be a pachycephalosaur when the thick dome on its head was discovered. Nearly the entire skeleton is known from individuals of different sizes.
<i>Ornithomimoides</i>	like <i>Ornithomimus</i>	Late Cretaceous	(70.6-65.5 MYA)	?	?	India	Known from tail vertebrae of an abelisaurid.
<i>Pycnonemosaurus</i>	dense-forest reptile	Late Cretaceous	(70.6-65.5 MYA)	19.7 ft (6 m)	Rhino	Brazil	The fossil was collected in the 1950s but was not described until 2002.
<i>Quilmesaurus</i>	Quilmes [an ancient native people of Argentina] reptile	Late Cretaceous	(72.8-66.8 MYA)	19.7 ft (6 m)	Rhino	Argentina	Known only from a partial leg.
* <i>Rahiolisaurus</i>	Raholi Village reptile	Late Cretaceous	(70.6-65.5 MYA)	26.2 ft (8 m)	Rhino	India	From the same time and place as <i>Rajasaurus</i> , <i>Rahiolisaurus</i> is larger but more slender. Known from individuals of different growth stages.
<i>Rajasaurus</i>	regal reptile	Late Cretaceous	(70.6-65.5 MYA)	19.7 ft (6 m)	Rhino	India	Possibly the same dinosaur as <i>Lametasaurus</i> and/or <i>Indosaurus</i> but known from much better fossils.
<i>Rugops</i>	rough face	Late Cretaceous	(99.6-93.5 MYA)	19.7 ft (6 m)	Rhino	Niger	An early abelisaurid. Holes for blood vessels on its face suggest its head was covered by horny masses.
* <i>Skorpiovenator</i>	scorpion hunter	Late Cretaceous	(99.6-93.5 MYA)	29.5 ft (9 m)	Rhino	Argentina	Known from a nearly complete skeleton. The discoverers do not think that it hunted scorpions; instead, the name "honors" the fact that the dig site where they found it was crawling with scorpions!
<i>Tarascosaurus</i>	Tarasque [legendary medieval French monster] reptile	Late Cretaceous	(83.5-80 MYA)	19.7 ft (6 m)	Rhino	France	Only some vertebrae and a femur are known, which might not all belong to the same species.
<i>Vitakridindra</i>	Vitakri [location in Pakistan] beast	Late Cretaceous	(70.6-65.5 MYA)	19.7 ft (6 m)?	Rhino?	Pakistan	Many bones are known, but they are not fully prepared. It is not certain if this is a unique new genus, or instead the same as one of the named species from nearby India (such as <i>Indosaurus</i> ).
<i>Xenotarsosaurus</i>	strange-ankle reptile	Late Cretaceous	(99.6-93.5 MYA)	19.7 ft (6 m)?	Rhino?	Argentina	Some vertebrae and a nearly complete leg are known. Despite the name, its ankle is actually similar to those of other ceratosaurs.
* Not yet officially named		Late Jurassic	(155.7-150.8 MYA)	?	Horse?	Tanzania	One or more different primitive abelisaurids from the Tendaguru Formation

**Primitive Tetanurines—Early Stiff-Tailed Dinosaurs (Chapter 14)**

These dinosaurs are members of Tetanurae, but they are not clearly members of the more advanced tetanurine groups Megalosauroida, Carnosauria, or Coelurosauria.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Cruxicheiros</i>	Cross Hands [Quarry]	Middle Jurassic	(167.7-164.7 MYA)	29.5 ft (9 m)?	Rhino	England	Known from very fragmentary remains. A large tetanurine, but it is uncertain if it is a megalosauroid, a carnosaur, or neither.
<i>Iliosuchus</i>	ilium crocodile	Middle Jurassic	(167.7-164.7 MYA)	4.9 ft (1.5 m)?	Beaver	England	Known only from a pair of ilia (upper hip bones).
<i>Kaijiangosaurus</i>	Kai River [China] reptile	Middle Jurassic	(167.7-161.2 MYA)	19.7 ft (6 m)?	Horse?	China	It could be a primitive carnosaur.

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

<i>Kelmayisaurus</i>	Karamay City [China] reptile	Early Cretaceous	(time very uncertain)	?	?	China	Known from some poorly described jaws. Some consider this to be a ceratosaur rather than a tetanurine.
<i>Razanandrongobe</i>	ancestor of the large lizards	Middle Jurassic	(167.7-164.7 MYA)	?	?	Madagascar	Known from a very fragmentary specimen with extremely thick teeth. Probably a crocodile relative rather than a dinosaur!
* <i>Shidaisaurus</i>	[Jin] Shidai [Company, which financed the dig] reptile	Middle Jurassic	(175.6=167.7 MYA)	19.7 ft (6 m)?	Horse?	China	A partial skeleton of an early primitive tetanurine, found buried underneath the skeleton of a sauropod!
<i>Valdoraptor</i>	thief of the Wealden Group	Early Cretaceous	(130-125 MYA)	16.4 ft (5 m)?	Lion?	England	Known only from an incomplete foot. Most likely from a carnosaur or coelurosaur.
Not yet officially named		Middle Jurassic	(167.7-161.2 MYA)	26.2 ft (8 m)	Horse	China	Known from a good skeleton and other material, it is traditionally called <i>Szechuanosaurus</i> . Unfortunately, that name properly belongs to a set of teeth that isn't definitely related to this particular primitive tetanurine.
Not yet officially named		Early Jurassic	(196.5-189.6 MYA)	26.2 ft (8 m)	Rhino	Italy	Known from a partial skeleton of a very large meat-eater.
Not yet officially named		Late Jurassic	(167.7-161.2 MYA)	39.4 ft (12 m)	Elephant	Germany	An as-yet undescribed skeleton of a heavily built giant predator nicknamed "the Monster of Minden". May turn out to be a <i>Torvosaurus</i> -like megalosauroid.
* Not yet officially named		Late Jurassic	(155.7-150.8 MYA)	?	Beaver	Tanzania	A small primitive tetanurine from the Tendaguru Formation.
* Not yet officially named		Late Jurassic	(155.7-150.8 MYA)	?	Rhino?	Tanzania	One or more larger, relatively slender primitive tetanurine from the Tendaguru Formation.

#### \*\* Primitive Megalosauroids—Primitive Long-Snouted Carnivorous Dinosaurs (Chapter 14)

Megalosauroides (also called Spinosauroides) is one of the main branches of Tetanurae. Most megalosauroids belong to either Megalosauridae or Spinosauridae, but these genera lie outside both these branches.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Chuangongocoelurus</i>	Chuangong [China] <i>Coelurus</i>	Middle Jurassic	(167.7-161.2 MYA)	?	?	China	Once considered a possible relative of <i>Elaphrosaurus</i> ; now considered a possible close relative of <i>Monolophosaurus</i> .
<i>Condorraptor</i>	thief of Cerro Condor [locality where found]	Middle Jurassic	(164.7-161.2 MYA)	?	Beaver	Argentina	Many isolated bones, probably from just one individual, are known. Once thought to be a primitive coelurosaur. Closely related to <i>Piatnitzkysaurus</i> .
<i>Marshosaurus</i>	[American paleontologist Othniel Charles] Marsh's reptile	Late Jurassic	(155.7-150.8 MYA)	16.4 ft (5 m)	Lion	Utah	Incompletely known, it has some traits like those of megalosauroids, some like those of carnososaurs, and some like those of primitive coelurososaurs. Current analyses place it as a primitive long-snouted megalosauroid.
<i>Monolophosaurus</i>	single-crested reptile	Middle Jurassic	(167.7-161.2MYA)	16.4 ft (5 m)	Grizzly bear	China	Had a large, hollow crest along the top of its skull. Once thought to be a primitive carnosaur, but recent studies show it is a primitive megalosauroid.
<i>Piatnitzkysaurus</i>	[Argentine geologist Alejandro Mateievich] Piatnitzky's reptile	Middle Jurassic	(164.7-161.2 MYA)	19.7 ft (6 m)	Grizzly bear	Argentina	One of the most completely known primitive tetanurines. Closely related to <i>Condorraptor</i> .
<i>Xuanhanosaurus</i>	Xuanhan County [China] reptile	Middle Jurassic	(167.7-161.2 MYA)	19.7 ft (6 m)	Grizzly bear	China	Known from some good forelimbs and some other bones.

#### \*\* Megalosaurids—Primitive Long-Snouted Dinosaurs (Chapter 14)

New work shows that Megalosauridae (*Megalosaurus* and dinosaurs more closely related to it than to *Spinosaurus*) were a successful group of Jurassic theropods.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Afrovenator</i>	African hunter	Middle Jurassic	(167.7-164.7MYA)	24.9 ft (7.6 m)	Horse	Niger	Lived at the same time as the giant sauropod <i>Jobaria</i> and may have hunted young <i>Jobaria</i> for food. The rocks it came from were originally thought to have been formed in the Early Cretaceous, but are now known to be much older.
<i>Dubreuillosaurus</i>	Dubreuil [family that discovered the dinosaur] reptile	Middle Jurassic	(167.7-164.7MYA)	24.9 ft (7.6m)	Horse	France	Originally thought to be a new species of the much more heavily built sinraptorid <i>Poekilopleuron</i> .
^ <i>Duriavenator</i>	hunter of Dorset	Middle Jurassic	(175.6-167.7 MYA)	23 ft (7 m)	Lion	England	Known only from jawbones similar to those of true <i>Megalosaurus</i> ; previously considered a species of that genus ( <i>Megalosaurus hesperis</i> ). One of the oldest of tetanurines.
<i>Edmarka</i>	for [University of Colorado scientist Bill] Edmark	Late Jurassic	(155.7-150.8 MYA)	36 ft (11 m)	Rhino	Wyoming	Many paleontologists consider this to be the same dinosaur as <i>Torvosaurus</i> , but others think that some <i>Edmarka</i> fossils should be regarded as a third megalosaurid, called " <i>Brontoraptor</i> ."
<i>Eustreptospondylus</i>	well-curved vertebrae	Middle Jurassic	(164.7-161.2 MYA)	23 ft (7 m)	Lion	England	Known from the nearly complete skeleton of a young individual. Considered by some to be a species of <i>Magnosaurus</i> .
<i>Magnosaurus</i>	great reptile	Middle Jurassic	(175.6-167.7 MYA)	?	Lion	England	Some consider it to be the same as <i>Eustreptospondylus</i> .

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

<i>Megalosaurus</i>	big reptile	Middle Jurassic	(175.6-155.7 MYA)	29.5 ft (9 m)	Rhino	England	Recent restudy of its skeleton has helped to clear up what fossils truly belong to this first named of Mesozoic dinosaurs, and what are simply other theropods of various sorts.
<i>Piveteausaurus</i>	[French paleontologist Jean] Piveteau's reptile	Middle Jurassic	(164.7-161.2 MYA)	36 ft (11 m)?	Rhino?	France	A braincase with some similarities to that of <i>Ceratosaurus</i> . However, studies show that it is a megalosaurid.
<i>Streptospondylus</i>	reversed vertebrae	Middle to Late Jurassic	(164.7-155.7 MYA)	?	?	France	Originally thought to be fossils of a crocodylian.
<i>Torvosaurus</i>	savage reptile	Late Jurassic	(155.7-150.8 MYA)	39.4 ft (12 m)	Elephant	Colorado, Utah; Portugal?	A large, heavily built megalosaurid with very powerful arms.

#### Spinosaurids—Crocodile-Mimic Dinosaurs (Chapter 14)

These dinosaurs, members of Spinosauridae, are characterized by long crocodile-like snouts with huge cone-shaped teeth. As with modern crocodiles, their diet probably included both fish and land animals.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Angaturama</i>	noble one	Early Cretaceous	(112-99.6 MYA)	26.2 ft (8 m)?	Rhino?	Brazil	Known only from a partial skull. May be the same dinosaur as <i>Irritator</i> .
<i>Baryonyx</i>	heavy claw	Early Cretaceous	(140.2-112 MYA)	32.8 ft (10 m)	Rhino	England; Spain	The original specimen was nicknamed "Claws."
<i>Cristatusaurus</i>	crested reptile	Early Cretaceous	(125-112 MYA)	32.8 ft (10 m)?	Rhino?	Niger	Known from only a few bones. Possibly the same dinosaur as <i>Suchomimus</i> and/or <i>Baryonyx</i> .
<i>Irritator</i>	irritator	Early Cretaceous	(112-99.6 MYA)	26.2 ft (8 m)?	Rhino?	Brazil	Known only from a partial skull. It got its name because the paleontologists who studied it were irritated that the collectors had added fake bones to the skull!
* <i>Oxalaia</i>	after Oxala', a god worshipped by African slaves brought to Brazil	Late Cretaceous	(99.6-93.5 MYA)	36 ft (11 m)?	Rhino?	Brazil	Known from partial skull material, which indicate a large spinosaurid comparable to the smaller specimens of <i>Spinosaurus</i> itself in size.
<i>Siamosaurus</i>	Siam [old name for Thailand] reptile	Early Cretaceous	(145.5-125 MYA)	?	?	Thailand	Known originally from teeth, which some thought might have been from a fish rather than a dinosaur! Newer material shows that there was indeed a tall-spined spinosaurid in Early Cretaceous Thailand.
<i>Spinosaurus</i>	spine reptile	Early to Late Cretaceous	(112-93.5 MYA)	52.5 ft (16 m)	Elephant	Egypt; Morocco; Kenya?; Tunisia?	One of the largest of all theropods. The original specimen was destroyed during World War II, but more recently several specimens have been discovered (although none are complete).
<i>Suchomimus</i>	crocodile mimic	Early Cretaceous	(125-112 MYA)	36 ft (11 m)	Rhino	Niger	Some consider this simply an African species of <i>Baryonyx</i> .
<i>Suchosaurus</i>	crocodile reptile	Early Cretaceous	(140.2-125 MYA)	32.8 ft (10 m)?	Rhino?	England	Originally considered a crocodile. May be the same dinosaur as <i>Baryonyx</i> .
* No official name yet		Early Cretaceous	(112-99.6 MYA)	?	Rhino?	Australia	Known only from a neck bone.
* No official name yet		Early Cretaceous	(125-99.6 MYA)	?	Rhino?	China	Known from teeth
* No official name yet		Early Cretaceous	(136.4-125 MYA)	?	Rhino?	Japan	Known from teeth and a partial snout
* No official name yet		Late Cretaceous	(85.8-83.5 MYA)	?	Rhino?	China	Known only from a <i>Baryonyx</i> -like tooth; the youngest of all spinosaurids (and spinosauroids) currently known.

#### Primitive Carnosaurs—Early Giant Meat-Eating Dinosaurs (Chapter 15)

The top predators of the Late Jurassic and Early Cretaceous epochs were the members of Carnosauria.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Becklespinax</i>	[British fossil collector Samuel Husband] Beckles's spine	Early Cretaceous	(130-125 MYA)	26.2 ft (8 m)?	Rhino?	England	Known only from some tall-spined vertebrae; once thought to come from <i>Megalosaurus</i> .
<i>Erectopus</i>	erect foot	Early Cretaceous	(112-99.6 MYA)	?	Lion	France	The original specimens were destroyed in World War II, but casts remain for study.
<i>Siamotyrannus</i>	tyrant of Siam [old name for Thailand]	Early Cretaceous	(145.5-125 MYA)	19.7 ft (6 m)?	Horse?	Thailand	Originally thought to be a tyrannosauroid. May be a megaraptoran.
<i>Sigilmassasaurus</i>	Sijilmassa [Morocco] reptile	Late Cretaceous	(99.6-93.5 MYA)	?	Rhino	Morocco; Egypt?	Considered to be the same dinosaur as <i>Carcharodontosaurus</i> by some. Originally thought to be a species of <i>Spinosaurus</i> .

#### Sinraptorids—Chinese Giant Meat-Eating Dinosaurs (Chapter 15)

The dinosaurs of Sinraptoridae were once known only from the Middle and Late Jurassic Epochs of China, but are now known from Europe as well.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Gasosaurus</i>	gas reptile	Middle Jurassic	(167.7-161.2 MYA)	11.5 ft (3.5 m)	Lion	China	A primitive sinraptorid.
* <i>Leshansaurus</i>	Leshan [Prefecture] reptile	Late Jurassic	(161.2-155.7 MYA)	18.5 ft (5.5 m)	Grizzly bear	China	Either a primitive sinraptorid or a megalosaurid.

<i>Lourinhanosaurus</i>	Lourinha [Portugal] reptile	Late Jurassic	(150.8-145.5 MYA)	16.4 ft (5 m)	Lion	Portugal	Many eggs and embryos of this dinosaur are known because a nest site of <i>Lourinhanosaurus</i> was discovered. Once thought to have been a megalosauroid rather than a sinraptorid carnosaur.
<i>Metriacanthosaurus</i>	medium-spined reptile	Late Jurassic	(161.2-155.7 MYA)	26.2 ft (8 m)?	Rhino	England	Once considered a megalosauroid.
<i>Poekilopleuron</i>	varied ribs	Middle Jurassic	(167.7-164.7 MYA)	29.5 ft (9 m)	Rhino	France	One of the first dinosaurs discovered; the original fossil was destroyed during World War II. Previously thought to be a megalosauroid.
<i>Sinraptor</i>	Chinese thief	Middle to Late Jurassic	(167.7-155.7 MYA)	29 ft (8.8 m)	Rhino	China	Known from some very complete skeletons.
<i>Yangchuanosaurus</i>	Yangchuan County [China] reptile	Late Jurassic	(161.2-155.7 MYA)	34.4 ft (10.5 m)	Rhino	China	The largest sinraptorid, and one of the largest Jurassic theropods.

**Allosaurids—American and European Giant Meat-Eating Dinosaurs (Chapter 15)**

*Allosaurus*, the best known of all carnosaurids, is a member of the group Allosauridae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Allosaurus</i>	strange [vertebra] reptile	Late Jurassic	(155.7-150.8 MYA)	39.4 ft (12 m)	Rhino	Portugal; Colorado, New Colorado, New Mexico, Utah, and Wyoming	The best-known Jurassic theropod, and one of the most studied of all dinosaurs. Known from dozens of skeletons, from embryos to adults.
<i>Saurophaganax</i>	king of the reptile-eaters	Late Jurassic	(155.7-150.8 MYA)	42.7 ft (13 m)	Elephant	Oklahoma	Thought by some to be a giant species of <i>Allosaurus</i> .

**Carcharodontosaurids—Gigantic Shark-Toothed Dinosaurs (Chapter 15)**

Carcharodontosauria includes two branches: Neovenatoridae and Carcharodontosauridae. The carcharodontosaurids were (in general) larger and more powerfully-built.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Acrocanthosaurus</i>	high-spined reptile	Early Cretaceous	(125-99.6 MYA)	39.4 ft (12 m)	Rhino	Oklahoma, Texas, Utah, possibly Maryland	The largest North American theropod before the evolution of the tyrannosaurids. Footprint trackways show that it hunted sauropods.
<i>Carcharodontosaurus</i>	Carcharodon [scientific name for great white shark] reptile	Early to Late Cretaceous	(112-93.5 MYA)	39.4 ft (12 m)	Elephant	Algeria; Egypt; Morocco; Niger	Although no good single skeleton is known, a nearly complete skull and various other isolated bones have been found. Known from a nearly complete skeleton with skin impressions. Has a tail pointed hump in front of the hips. Bumps on its arms are thought by some to indicate feathers or quills on the forearms, but may simply be muscle attachment surfaces.
* <i>Concavenator</i>	Cuenca [Province] hunter	Early Cretaceous	(130-125 MYA)	20 ft (6.1 m)	Rhino	Spain	Newly discovered. Closely related to <i>Acrocanthosaurus</i> .
* <i>Eocarcharia</i>	dawn carcharodontosaurid	Early Cretaceous	(125-112 MYA)	20 ft (6.1 m)	Rhino	Niger	One of the largest of all theropods. A partial jawbone is known that is 8 percent bigger than that of the original <i>Giganotosaurus</i> skeleton.
<i>Giganotosaurus</i>	giant southern reptile	Late Cretaceous	(99.6-97 MYA)	43.3 ft (13.2 m)	Elephant	Argentina	Before it was described, <i>Mapusaurus</i> was thought by some to be a new species of <i>Giganotosaurus</i> . Known from a series of skeletons of different-size individuals, suggesting that they lived in packs.
<i>Mapusaurus</i>	earth reptile	Late Cretaceous	(97-93.5 MYA)	41.3 ft (12.6 m)	Elephant	Argentina	Previously considered a species of the primitive tetanurine <i>Chilantaisaurus</i> or as a possible primitive tyrannosauroid (that is what it was considered in the published version of this book!)
^ <i>Shaochilong</i>	shark tooth dragon	Late Cretaceous	(93.6-89.3 MYA)	19.7 ft (6 m)?	Horse	China	A very large carcharodontosaurid.
<i>Tyrannotitan</i>	giant tyrant	Early Cretaceous	(125-112 MYA)	40 ft (12.2 m)	Elephant	Argentina	The oldest known carcharodontosaurid. There are teeth from the Tendaguru Formation that probably come from it; however, the name-bearing specimen is just a set of tail vertebrae.
* <i>Veterupristisaurus</i>	old shark reptile	Late Jurassic	(155.7-150.8 MYA)	34.4 ft (10.5 m)?	Rhino	Tanzania	

**\*\* Primitive Neovenatorids—Advanced Shark-Toothed Dinosaurs (Chapter 14)**

One of the two branches of Carcharodontosauria, Neovenatoridae includes the forms here as well as the advanced, slender-bodied Megaraptora listed afterwards.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Chilantaisaurus</i>	Jilantai [Inner Mongolia] reptile	Early Cretaceous	(125-99.6 MYA)	42.7 ft (13 m)?	Elephant	China	A giant theropod with enormous curved claws. Once thought to possibly be related to the megalosauroids, but now found to be a giant primitive neovenatorid.
<i>Neovenator</i>	new hunter	Early Cretaceous	(130-125 MYA)	24.6 ft (7.5 m)	Horse	England	First thought to be an allosaurid, it has small crests on its snout.

**\*\* Megaraptors—Giant Clawed Dinosaurs (Chapter 14)**

Once only poorly known and thought to be close to the spinosaurids, Megaraptora are now found to be a group of slender big-thumb-clawed neovenatorid carcharodontosaurian carnosaur.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<sup>^</sup> <i>Aerosteon</i>	air bone	Late Cretaceous	(83-78 MYA)	37.7 ft (11.5 m)	Rhino	Argentina	Mentioned in the book on p. 104 as one of the last of the carcharodontosaurids. Its bones are very hollow.
* <i>Australovenator</i>	Australian hunter	Early Cretaceous	(112-99.6 MYA)	20.1 ft (6 m)	Horse	Australia	A slender carnivore with a huge thumb claw. This skeleton-although incomplete-helped show that dinosaurs once thought to be in different parts of the theropod tree actually formed a group "Megaraptora". Isolated bones from this were once used as evidence of a late surviving dwarf <i>Allosaurus</i> -like form. The original skeleton was nicknamed "Banjo".
<i>Fukuiraptor</i>	thief of Fukui Prefecture [Japan]	Early Cretaceous	(136.4-125 MYA)	16.4 ft (5 m)	Lion	Japan	When only a few bones, including a giant claw, were found, this was thought to be an enormous dromaeosaurid raptor. But as additional specimens were discovered, that "'foot claw" turned out to be a hand claw.
<i>Megaraptor</i>	big thief	Late Cretaceous	(91-88 MYA)	29.5 ft (9 m)	Rhino	Argentina	Originally thought to have a dromaeosaurid-like sickle foot claw, but it turns out that it was a slender carnosaur with enormous hand claws.
* <i>Orkoraptor</i>	Toothed River [Orr Korr in local language] thief	Late Cretaceous	(70.6-65.5 MYA)	21.5 ft (6.5 m)	Horse	Argentina	Only poorly known, and initially thought to be a primitive maniraptoran. The very youngest known carnosaur.
<i>Raptor</i>	plunderer	Early Cretaceous	(112-99.6 MYA)	?	Grizzly bear	Australia	Known only from a hand bone. I once suggested that this was an early, and very large, alvarezsaurid. Instead it is almost certainly the hand bone of a something very closely related to <i>Australovenator</i> .
* No official genus name		Early Cretaceous	(125-99.6 MYA)	29.5 ft (9 m)?	Rhino?	Australia	Known only from an arm bone.

**Primitive Coelurosaurs—Early Fuzzy Dinosaurs (Chapter 16)**

These small dinosaurs are early members of Coelurosauria.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Aniksoosaurus</i>	Spring reptile [because it was found on September 21st, the first day of Spring in the Southern Hemisphere]	Late Cretaceous	(99.6-93.5 MYA)	6.6 ft (2 m)	Wolf	Argentina	Heavily built for a small theropod.
<i>Bagaraatan</i>	little predator	Late Cretaceous	(70.6-68.5 MYA)	11.2 ft (3.4 m)	Sheep	Mongolia	Possibly a tyrannosauroid.
<i>Juravenator</i>	Jurassic hunter	Late Jurassic	(155.7-150.8 MYA)	2.6 ft (80 cm)	Chicken	Germany	Originally thought to be a compsognathid; in fact, it may not even be a coelurosaur. Impressions of patches of scaly skin are preserved, but with some protofeathers impressions as well. Another skeleton of this (or a very similar species) has recently been announced, but at present has not been described in the scientific literature.
<i>Nedcolbertia</i>	for [American paleontologist Edwin] "Ned" Colbert	Early Cretaceous	(130-125 MYA)	?	Beaver	Utah	A long-legged theropod, still not completely known.
<i>Nqwebasaurus</i>	Nqweba [South Africa] reptile	Early Cretaceous	(145.5-136.4 MYA)	12 in (30 cm)	Chicken	South Africa	Possibly an early relative of the ornithomimosaurs or of the alvarezsaurids.
<i>Ormitholestes</i>	bird thief	Late Jurassic	(155.7-150.8 MYA)	6.6 ft (2 m)	Beaver	Wyoming and Utah	Possibly a primitive tyrannosauroid, possibly a primitive maniraptoran, possibly a very early branch of Coelurosauria. Shorter and stockier legs than those of <i>Coelurus</i> .
<i>Phaedrolosaurus</i>	nimble reptile	Early Cretaceous	(time very uncertain)	23 ft (7 m)?	Rhino?	China	Proper <i>Phaedrolosaurus</i> is known only from a single tooth. Most of the bones that were once considered to belong to this genus are now given their own name: <i>Xinjiangovenator</i> .
<i>Richardoestesia</i>	for [American paleontologist] Richard Estes	Late Cretaceous	(83.5-65.5 MYA)	?	?	Throughout the American and Canadian West	The original specimen is known only from a pair of lower jaws, but teeth from this dinosaur are found in nearly every Rocky Mountain state and province. A real mystery dinosaur because we don't yet know what the rest of its body looks like!
<i>Scipionyx</i>	Scipio's [both Italian geologist Scipione Breislak and Roman general Publius Cornelius Scipio Africanus] claw	Early Cretaceous	(112-99.6 MYA)	12 in (30 cm)	Pigeon	Italy	Known only from a hatchling, so no one knows how big this dinosaur would grow. The only known specimen had fossilized soft tissues. It may be a maniraptoran or a compsognathid; however, because juvenile animals often haven't developed the features that distinguish the groups to which they belong, it is difficult to tell at present.

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

<i>Teinurosaurus</i>	stretched-tail reptile	Late Jurassic	(155.7-150.8 MYA)	?	?	France	Known only from a single vertebra, which was destroyed in World War II.
<i>Tugulusaurus</i>	Tugulu Group reptile	Early Cretaceous	(time very uncertain)	?	Wolf	China	Once thought to be an ornithomimosaur, it seems to be a coelurosaur with a mixture of traits of different groups.
<i>Xinjiangovenator</i>	hunter of Xinjiang [China]	Early Cretaceous	(time very uncertain)	13.1 ft (4 m)	Wolf	China	Known from an incomplete fossil with some traits like those of <i>Bagaraatan</i> and others like those of maniraptorans.
* <i>Zuolong</i>	[ancient Chinese General] Zuo's dragon	Late Jurassic	(161.2-155.2 MYA)	9.8 ft (3 m)?	Wolf?	China	Almost certainly not fully grown, one of the most primitive coelurosaurs known from a good skeleton. The General Zuo after whom it is named is sometimes spelled "General Tso", and is probably most famous in the Western world not for his military accomplishment but instead for the tasty chicken dish named after him.

**Compsognathids—Small Early Coelurosaurs (Chapter 16)**

One common group of primitive coelurosaurs is the short-armed Compsognathidae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Aristosuchus</i>	superior crocodile	Early Cretaceous	(130-125 MYA)	6.6 ft (2 m)	Beaver	England	One of the larger compsognathids.
<i>Compsognathus</i>	delicate jaw	Late Jurassic	(155.7-145.5 MYA)	4.1 ft (1.3 m)	Turkey	France; Germany	One of the first small Mesozoic dinosaurs known from a nearly complete skeleton.
<i>Huaxiagnathus</i>	Chinese jaw	Early Cretaceous	(125-120 MYA)	5.9 ft (1.8 m)	Beaver	China	When it was discovered, some thought it was a large <i>Sinosauropteryx</i> .
<i>Mirischia</i>	wonderful pelvis	Early Cretaceous	(112-99.6 MYA)	6.9 ft (2.1 m)	Beaver	Brazil	The left and right side of this dinosaur's hips are asymmetrical.
* <i>Sinocallopteryx</i>	Chinese beautiful feather	Early Cretaceous	(125-121.6 MYA)	6.9 ft (2.1 m)	Beaver	China	A fairly large compsognathid.
<i>Sinosauropteryx</i>	Chinese feathered reptile	Early Cretaceous	(125-120 MYA)	4.3 ft (1.3 m)	Turkey	China	The first dinosaur other than avialians for which feathers (or at least protofeathers) were discovered.

**\*\* Coelurids—Small Slender Early Coelurosaurs (Chapter 16)**

Coeluridae is a clade of slender, long-limbed early coelurosaurs. They may be close to maniraptorans, primitive tyrannosauroids, or may have branched off even earlier.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Coelurus</i>	hollow tail	Late Jurassic	(155.7-150.8 MYA)	6.6 ft (2 m)	Beaver	Utah and Wyoming	A long-legged, fast-running theropod. Coelurosauria is named after this genus.
<i>Tanycolagreus</i>	long-limbed hunter	Late Jurassic	(155.7-150.8 MYA)	10.8 ft (3.3 m)	Wolf	Colorado, Utah, Wyoming	Probably a very primitive tyrannosauroid. First thought to be a new species of <i>Coelurus</i> .

**\*\* Proceratosaurids—Primitive Early Tyrant Dinosaurs (Chapter 17)**

Tyrannosauroidae includes the primitive Proceratosauridae, the extremely specialized Tyrannosauridae, and a series of genera in between the two. Proceratosaurids are generally smaller and more lightly built than the advanced forms, and several have crests on their skulls.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Guanlong</i>	crowned dragon	Late Jurassic	(161.2-155.7 MYA)	9.8 ft (3 m)	Sheep	China	The most complete skeleton of an early tyrannosauroid, with a spectacular skull crest.
* <i>Kileskus</i>	lizard	Middle Jurassic	(167.7-164.7 MYA)	9.8 ft (3 m)?	Wolf	China	Known from fragmentary material which is very similar to <i>Proceratosaurus</i> .
<i>Proceratosaurus</i>	before <i>Ceratosaurus</i>	Middle Jurassic	(167.7-164.7 MYA)	9.8 ft (3 m)?	Wolf	England	Known from a single incomplete skull. As the name suggests, was once thought to be related to <i>Ceratosaurus</i> , but is now considered one of the oldest tyrannosauroids.
* <i>Sinotyrannus</i>	Chinese tyrant	Early Cretaceous	(125-120 MYA)	33 ft (10 m)?	Rhino	China	A giant proceratosaurid. Estimates of its body size may be too high; it might be closer to 20.1 ft (6 m), still much larger than any other proceratosaurid.

**Primitive Tyrannosauroids—Early Tyrant Dinosaurs (Chapter 17)**

These coelurosaurs are members of Tyrannosauroidae but not the more advanced Tyrannosauridae nor the primitive Proceratosauridae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Aviatyrannis</i>	grandmother of the tyrants	Late Jurassic	(155.7-150.8 MYA)	13.1 ft (4 m)?	Lion	Portugal; South Dakota?	Known only from a few bones and teeth.
<i>Calamosaurus</i>	reed reptile	Early Cretaceous	(130-125 MYA)	?	?	England	Often confused with <i>Calamospondylus</i> and <i>Aristosuchus</i> , this seems to be an <i>Eotyrannus</i> -like early tyrannosauroid.
<i>Dilong</i>	emperor dragon	Early Cretaceous	(125-120 MYA)	4.9 ft (1.5 m)	Beaver	China	One of the most complete skeletons of a primitive tyrant dinosaur, and the first to show that they had protofeathers.
<i>Dryptosaurus</i>	tearing reptile	Late Cretaceous	(71-68 MYA)	19.7 ft (6 m)	Rhino	New Jersey	When discovered, its skeleton showed that theropods were bipedal.

<i>Eotyrannus</i>	dawn tyrant	Early Cretaceous	(130-125 MYA)	14.8 ft (4.5 m) possibly larger	Lion, maybe grizzly bear	England	A long-legged, long-armed early tyrant dinosaur.
<i>Labocania</i>	after the La Boca Rioja Formation	Late Cretaceous	(83.5-70.6 MYA)	24.6 ft (7.5 m)?	Rhino	Mexico	First theropod named from Mexico.
<i>Santanaraptor</i>	thief of the Santana Formation	Early Cretaceous?	(112-99.6 MYA)	4.1 ft (1.3 m)	Beaver	Brazil	Known only from a partial skeleton, but one that has fossilized muscle tissue! May be some other branch of coelurosaur rather than a tyrannosauroid.
<i>Stokesosaurus</i>	[American paleontologist William Lee] Stokes's reptile	Late Jurassic	(155.7-150.8 MYA)	13.1ft (4 m)?	Lion?	England; Utah	Some studies show it to be close to the younger <i>Eotyrannus</i> .

#### \*\* Near Tyrannosaurids—Closest Kin to the Giant Tyrant Dinosaurs (Chapter 17)

These are genera which share many of the same adaptations as Tyrannosauridae, but are not in that advanced group.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Alectrosaurus</i>	mateless reptile	Late Cretaceous	(95-80 MYA)	16.4 ft (5 m)?	Horse	China; Mongolia	Only known from partial skeletons; a primitive fast-running tyrant dinosaur. A very close relative to Tyrannosauridae proper.
<i>Appalachiosaurus</i>	Appalachian Mountain reptile	Late Cretaceous	(83.5-76 MYA)	21.3 ft (6.5m)	Horse	Alabama	One of the most complete dinosaurs ever found in the American South. Very close to Tyrannosauridae.
* <i>Bistahieversor</i>	destroyer of Bistahi [region of New Mexico]	Late Cretaceous	(80-72.8 MYA)	29.7 ft (9 m)	Rhino	New Mexico	Previously considered a species of <i>Daspletosaurus</i> . Currently the closest known relative to Tyrannosauridae. Close to the split between Albertosaurinae and Tyrannosaurinae.
* <i>Raptorex</i>	thief king	Early Cretaceous	(125-120 MYA)?	19 ft (3 m)	Wolf	China? Mongolia?	Known from an excellent skeleton, but unfortunately bought at a rock show where the collection site information was lost. In terms of its anatomy it is very similar to Tyrannosauridae (short arms, arctometatarsus, etc.), but at a much smaller body size. Some paleontologists think that this is really from the Late Cretaceous, and is simply a juvenile <i>Tarbosaurus</i> or other Asian tyrannosaurid; I am waiting for analysis of the sedimentary rocks from which it was found to make my decision.
* <i>Xiongguanlong</i>	Jiayuguan [City] dragon	Early Cretaceous	(125-99.6 MYA)	13.1 ft (4 m)	Lion	China	Close to the origins of Tyrannosauridae. Had a long slender skull.
* Not yet officially named		Early Cretaceous	(125-99.6 MYA)	19.7 ft (6 m)?	Rhino?	Australia	Known only from pubic bones, the first fairly secure evidence of advanced tyrannosauroids from the southern continents.

#### Albertosaurines—Slender Giant Tyrant Dinosaurs (Chapter 17)

Tyrannosauridae is comprised to two major branches: the slender Albertosaurinae and the robust Tyrannosaurinae. Albertosaurines are currently known only from western North America.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Albertosaurus</i>	Alberta [Canada] reptile	Late Cretaceous	(72.8-66.8 MYA)	28.2 ft (8.6 m)	Rhino	Alberta; Montana	Fossils show that they probably lived in family groups and may have even hunted in packs.
<i>Gorgosaurus</i>	fierce reptile	Late Cretaceous	(80-72.8 MYA)	28.2 ft (8.6 m)	Rhino	Alberta; Montana	Sometimes considered a second species of the genus <i>Albertosaurus</i> ; known from many skeletons.

#### Tyrannosaurines—Massive, Giant Tyrant Dinosaurs (Chapter 17)

These were the top predators of western North America and eastern and central Asia at the end of the Age of Dinosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Alioramus</i>	other branch	Late Cretaceous	(70.6-68.5 MYA)	19.7 ft (6 m)	Horse	Mongolia	Known from a couple of very nice skulls, some very scrappy other bones, and now a very excellent skeleton! Had a row of small bumps on its nose. Some think it might be a juvenile <i>Tarbosaurus</i> . The smallest member of Tyrannosaurinae.
<i>Daspletosaurus</i>	frightful reptile	Late Cretaceous	(80-72.8 MYA)	29.5 ft (9 m)	Rhino	Alberta; Montana	The Montana specimens might represent a new species of <i>Daspletosaurus</i> .
<i>Nanotyrannus</i>	dwarf tyrant	Late Cretaceous	(66.8-65.5 MYA)	19.7 ft (6 m)	Horse	Montana	Many paleontologists consider this is nothing more than a juvenile <i>Tyrannosaurus</i> .
<i>Tarbosaurus</i>	dreadful reptile	Late Cretaceous	(70.6-68.5 MYA)	32.8 ft (10 m)	Rhino	China; Mongolia	The largest theropod known from China; sometimes considered a species of <i>Tyrannosaurus</i> .
* <i>Teratophoneus</i>	monstrous murderer	Late Cretaceous	(80-72.8 MYA)	28.2 ft (8.6 m)?	Rhino	Utah	A primitive tyrannosaurine with a relatively short snout
<i>Tyrannosaurus</i>	tyrant reptile	Late Cretaceous	(66.8-65.5 MYA)	40.7ft (12.4 m)	Elephant	Saskatchewan, Alberta; Colorado, Montana, Wyoming, South Dakota, New Mexico, ?Texas	The largest tyrannosauroid, the largest coelurosaur, and the largest known theropod in North America.

* <i>Zhuchengtyrannus</i>	Zhucheng City [China] tyrant	Late Cretaceous	(83.5-70.6 MYA)	32.8 ft (10 m)	Rhino	China	A deep-snouted tyrannosaurine, close to <i>Tarbosaurus</i> and <i>Tyrannosaurus</i> .
* No official genus name		Late Cretaceous	(80-72.8 MYA)	32.8 ft (10 m)	Rhino	Montana	Only known from a single skull bone; may be directly ancestral to <i>Tyrannosaurus</i>

**Primitive Ornithomimosaur—Early Ostrich Dinosaurs (Chapter 18)**

Ornithomimosauria—the ostrich dinosaurs—were slender, small-headed, omnivorous or herbivorous theropods. The following were members of Ornithomimosauria but not part of the advanced group Ornithomimidae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Beishanlong</i>	Northern Mountain dragon	Early Cretaceous	(125-99.6 MYA)	23.1 ft (7 m)	Grizzly bear	China	A large primitive ornithomimosaur.
<i>Deinocheirus</i>	terrible hands	Late Cretaceous	(70.6-68.5 MYA)	39.4 ft (12 m)?	Elephant	Mongolia	Known only from its enormous 8-foot arms and a few vertebrae, this seems to be a <i>Tyrannosaurus</i> -size ornithomimosaur.
<i>Garudimimus</i>	Garuda [mythological Indian bird] mimic	Late Cretaceous	(99.6-89.3 MYA)	13.1 ft (4 m)	Sheep	Mongolia	A nearly complete skull and partial skeleton are known.
<i>Harpymimus</i>	Harpy [mythological Greek bird] mimic	Early Cretaceous	(136.4-125 MYA)	16.4 ft (5 m)	Sheep	Mongolia	Known from a crushed, but nearly complete, skeleton, <i>Harpymimus</i> was the first toothed ornithomimosaur discovered.
^ <i>Kinnareemimus</i>	Kinnaree [Thai mythological creatures with the body of a woman but feet of a bird] mimic	Early Cretaceous	(145.5-125 MYA)	9.8 ft (3 m)?	Sheep?	Thailand	Known from a few isolated parts of the skeleton, including an arctometatarsus.
<i>Pelecanimimus</i>	pelican mimic	Early Cretaceous	(130-125 MYA)	5.9 ft (1.8 m)	Wolf	Spain	With 220 tiny teeth, <i>Pelecanimimus</i> has more teeth than any other known theropod.
<i>Shenzhousaurus</i>	China reptile	Early Cretaceous	(125-120 MYA)	6.6 ft (2 m)	Sheep	China	Known from the front end of an individual.
<i>Sinornithomimus</i>	Chinese <i>Ornithomimus</i>	Late Cretaceous	(85.8-83.5 MYA)	8.2 ft (2.5 m)	Sheep	China	Many individuals, including nearly complete skeletons, were found together suggesting that <i>Sinornithomimus</i> lived in herds.

**Ornithomimids—Advanced Ostrich Dinosaurs (Chapter 18)**

These were among the fastest dinosaurs of the Mesozoic Era.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Anserimimus</i>	goose mimic	Late Cretaceous	(70.6-68.5 MYA)	9.8 ft (3 m)	Sheep	Mongolia	Little is known of this straight-clawed ornithomimid.
<i>Archaeornithomimus</i>	ancient <i>Ornithomimus</i>	Late Cretaceous	(99.6-85.8 MYA)	11.2 ft (3.4 m)	Sheep	China	One of the more poorly known ornithomimids.
<i>Gallimimus</i>	chicken mimic	Late Cretaceous	(70.6-68.5 MYA)	19.7 ft (6 m)	Horse	Mongolia	The most completely known ostrich dinosaur, with skeletons of babies, half-grown individuals, and large adults.
<i>Ornithomimus</i>	bird mimic	Late Cretaceous	(80-65.5 MYA)	11.5 ft (3.5 m)	Lion	Alberta, Saskatchewan; Montana, Wyoming, Utah, Colorado, South Dakota	First known from very incomplete fossils, but nearly complete skulls and skeletons have been discovered. The dinosaur once called " <i>Dromiceiomimus</i> " is now considered a species of <i>Ornithomimus</i> .
* <i>Qiupalong</i>	Quipa [Formation] dragon	Late Cretaceous	(time uncertain)	9.8 ft (3 m)	Sheep	China	Known from a single skeleton so far. Seems to be more closely related to the North American ornithomimids than to the other Asian ones.
<i>Struthiomimus</i>	ostrich mimic	Late Cretaceous	(80-65.5 MYA)	16.4 ft (5 m)	Lion	Alberta, Wyoming	The first ornithomimid known from nearly complete skeletons, and the one that showed how ostrich-like they really were. A skeleton nicknamed "Claws" found in Wyoming may be a late representative of this genus.
* No official genus name		Late Cretaceous	(80-72.8 MYA)	19.7 ft (6 m)	Horse	Montana	A <i>Gallimimus</i> -sized ornithomimid from Canada. Only known from a few isolated bones.

**\*\* Primitive Alvarezsaurids—Early Thumb-Clawed Dinosaurs (Chapter 18)**

Until recently, the only known representatives of Alvarezsauridae were the Cretaceous advanced forms Alvarezsauridae. However, we now know of even more primitive Jurassic genera.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Haplocheirus</i>	simple hand	Late Jurassic	(161.2-155.7 MYA)	6.6 ft (2 m)	Beaver	China	The most primitive (and one of the largest) alvarezsaurids. Its name refers to the fact that its hand is much more like those of primitive coelurosaurs rather than the bizarre hands of alvarezsaurids.

**Primitive Alvarezsaurids—Primitive Thumb-Clawed Dinosaurs (Chapter 18)**

Alvarezsauridae is a group of bizarre, small coelurosaurs of the Cretaceous Period. The more specialized forms belong to the subgroup Parvicursorinae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Achillesaurus</i>	[legendarily fast Greek hero] Achilles' reptile	Late Cretaceous	(86-83 MYA)	4.6 ft (1.4 m)?	Turkey	Argentina	Known from only a partial skeleton.
<i>Alvarezsaurus</i>	[historian Don Gregorio] Alvarez's reptile	Late Cretaceous	(86-83 MYA)	4.6 ft (1.4 m)?	Turkey	Argentina	Known from only a partial skeleton.
* <i>Bonapartenykus</i>	[Argentine paleontologist Jose] Bonaparte's claw	Late Cretaceous	(83.5-68 MYA)	8.25 ft (2.5 m)?	Beaver	Argentina	The largest known alvarezsaurid. Closely related to <i>Patagonykus</i> . One of the youngest known alvarezsaurids in Argentina.
<i>Bradycneme</i>	heavy shin	Late Cretaceous	(70.6-65.5 MYA)	?	Turkey	Romania	This specimen has also been considered a fossil owl and a troodontid.
* <i>Ceratomykus</i>	horned claw	Late Cretaceous	(85.8-70.6 MYA)	6.6 ft (2 m)	Turkey	Mongolia	Known from a partial skeleton.
<i>Heptasteornis</i>	seven-towns bird	Late Cretaceous	(70.6-65.5 MYA)	?	Turkey	Romania	Like <i>Bradycneme</i> , it was once considered a fossil owl or a troodontid.
<i>Patagonykus</i>	claw of Patagonia [Argentina]	Late Cretaceous	(91-88 MYA)	5.6 ft (1.7m)	Beaver	Argentina	This dinosaur was the link that let paleontologists connect <i>Alvarezsaurus</i> with the parvicursorines (previously thought to be only distantly related).

**\*\* Parvicursorines—Advanced Thumb-Clawed Dinosaurs (Chapter 18)**

The alvarezsaurids with a specialized pinched foot are grouped into Parvicursorinae (also called "Mononykinae").

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Albertonykus</i>	Alberta claw	Late Cretaceous	(72.8-66.8 MYA)	3 ft (90 cm)	Turkey	Alberta	The most complete known North American alvarezsaur (although still very incomplete).
* <i>Albinykus</i>	wandering lights claw	Late Cretaceous	(85.8-83.5 MYA)	2 ft (60 cm)	Chicken	Mongolia	At less than 2.2 lbs (1 kg), one of the smallest dinosaurs other than birds. Original specimen found in a curled up position.
* <i>Koi</i>	foot	Late Cretaceous	(85.8-70.6 MYA)	6.6 ft (2 m)	Beaver	Mongolia	One of the largest parvicursorines, currently known only from a foot. Some consider it to be a giant <i>Avimimus</i> -like oviraptorosaur rather than an alvarezsaurid.
* <i>Linhenykus</i>	Linha [District] claw	Late Cretaceous	(84-75 MYA)	2 ft (60 cm)	Chicken	China	A small parvicursorine in which the lateral fingers (II and III) are entirely reduced.
<i>Mononykus</i>	one claw	Late Cretaceous	(85.8-70.6 MYA)	3 ft (90 cm)	Turkey	Mongolia	The first alvarezsaurid known from relatively complete skeletons, it was once considered an early bird or a bizarre ornithomimosaur.
<i>Parvicursor</i>	small runner	Late Cretaceous	(85.8-70.6 MYA)	12 in (30 cm)	Pigeon	Mongolia	Known from a partial skeleton, this is a small relative of <i>Shuvuuia</i> and <i>Mononykus</i> .
<i>Shuvuuia</i>	bird	Late Cretaceous	(85.8-70.6 MYA)	2 ft (60 cm)	Chicken	Mongolia	Known from excellent fossils, including the best-preserved alvarezsaurid skull.
* <i>Xixianykus</i>	Xixia [region] claw	Late Cretaceous	(89.3-85.8 MYA)	19.7 in (50 cm)	Chicken	China	A small early parvicursorine.
* No official genus name		Late Cretaceous	(85.8-70.6 MYA)	2 ft (60 cm)	Chicken	Mongolia	An excellent skeleton is known, and described as being from <i>Shuvuuia</i> . However, new studies suggest it is actually a closer relative of <i>Parvicursor</i> .
No official genus name; formerly " <i>Ornithomimus</i> " <i>minutus</i>		Late Cretaceous	(66.8-65.5 MYA)	12 in (30 cm)	Pigeon	Colorado	Isolated bones of a North American parvicursorine were once thought to belong to a tiny species of <i>Ornithomimus</i> .

**Primitive Maniraptorans—Early Feathered Dinosaurs (Chapters 19 and 20)**

Maniraptora is the group of dinosaurs that includes the most advanced coelurosaurs. The following genera are maniraptorans but not alvarezsaurids, oviraptorosaurs, therizinosaurs, deinonychosaurs, or avialians.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Euronychodon</i>	European claw tooth	Late Cretaceous	(83.5-65.5 MYA)	?	?	Portugal	Known only from teeth. Similar teeth have been found from the Late Cretaceous of Uzbekistan.
<i>Kakuru</i>	ancestral serpent	Early Cretaceous	(125-112 MYA)	4.9 ft (1.5 m)?	Turkey	Australia	Known only from a lower tibia and a toe bone, which may actually be from an oviraptorosaur or an abelisaurid.
<i>Nuthetes</i>	monitor	Early Cretaceous	(145.5-140.2 MYA)	5.9 ft (1.8 m)?	Turkey	England	Possibly a dromaeosaurid.
<i>Palaeopteryx</i>	ancient wing	Late Jurassic	(155.7-150.8 MYA)	12 in (30 cm)?	Pigeon?	Colorado	Known only from hip bones and a femur. Maybe an early bird or an early deinonychosaur.
<i>Paronychodon</i>	near-claw tooth	Late Cretaceous	(83.5-65.5 MYA)	?	?	Montana, New Mexico, Wyoming	Known only from teeth.
* <i>Pneumatraptor</i>	air pocket thief	Late Cretaceous	(85.8-83.5 MYA)	2.4 ft (73 cm)?	Chicken	Hungary	A small theropod with hollow chambers in many of its bones. Close to avialians and deinonychosaurs.

<i>Timimus</i>	Tim [Rich]'s mimic	Early Cretaceous	(112-99.6 MYA)	9.8 ft (3 m)?	Wolf?	Australia	Known from a single femur. Originally considered an ornithomimosaur. Some have proposed that it is an unenlagiine deinonychosaur.
<i>Yaverlandia</i>	from Yaverland Battery [Isle of Wight]	Early Cretaceous	(130-125 MYA)	?	Beaver	England	Known only from a top of a skull, originally thought to be from a pachycephalosaur!
<i>Yixianosaurus</i>	Yixian Formation reptile	Early Cretaceous	(125-120 MYA)	?	Turkey	China	Known from an incomplete skeleton with very long hands.
* Not officially named yet		Early Cretaceous	(140.2-136 MYA)	13 in (33 cm)?	Pigeon?	England	Quite possibly an oviraptorosaur, a tiny maniraptoran vertebra from the Ashdown Brickworks locality of England. One of the tiniest dinosaur fossils other than from birds.

**Primitive Therizinosaurs—Early Sloth Dinosaurs (Chapter 19)**

These are the early members of Therizinosauria. Therizinosauria includes both *Falcarius* and the more advanced Therizinosauroidea.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Alxasaurus</i>	Alxa Desert [Inner Mongolia] reptile	Early Cretaceous	(125-112 MYA)	12.4 ft (3.8 m)	Grizzly bear	China	The first primitive therizinosauroid known, showing that these weird dinosaurs were in fact maniraptoran theropods.
<i>Beipiaosaurus</i>	Beipiao City [China] reptile	Early Cretaceous	(125-120 MYA)	6.1 ft (1.9 m)	Sheep	China	The first therizinosauroid found with feather impressions.
<i>Falcarius</i>	sickle blade	Early Cretaceous	(130-125 MYA)	13.1 ft (4 m)	Grizzly bear	Utah	Known from a mass accumulation of dozens, possibly hundreds, of individuals. Unlike the more advanced therizinosauroids, this therizinosaur has relatively long legs with slender three-toed feet.
<i>Nothronychus</i>	sloth claws	Late Cretaceous	(93.5-89.3 MYA)	17.3 ft (5.3 m)	Rhino	New Mexico, Utah	The first-discovered North American therizinosauroid, it has an oddly flared-out pelvis.

**Therizinosaurids—Advanced Sloth Dinosaurs (Chapter 19)**

The dinosaurs of Therizinosauridae were the more specialized therizinosaurs of the Late Cretaceous Epoch.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Enigmosaurus</i>	enigmatic reptile	Late Cretaceous	(99.6-85.8 MYA)	16.4 ft (5 m)	Horse	Mongolia	Known only from a pelvis, and quite possibly the same dinosaur as <i>Erlikosaurus</i> .
<i>Erliansaurus</i>	Erlian [China] reptile	Late Cretaceous	(99.6-85.8 MYA)	8.4 ft (2.6 m)	Lion	China	A link between the more primitive therizinosaurs and the advanced therizinosaurids.
<i>Erlikosaurus</i>	Erlík [Mongolian death god] reptile	Late Cretaceous	(99.6-85.8 MYA)	11.2 ft (3.4 m)	Grizzly bear	China; Mongolia	The original specimen includes a very well-preserved skull.
<i>Nanhsiungosaurus</i>	Nanxiong Formation reptile	Late Cretaceous	(70.6-68.5 MYA)	14.4 ft (4.4 m)	Horse	China	First thought to be a very weird small sauropod.
<i>Neimongosaurus</i>	Inner Mongolia reptile	Late Cretaceous	(99.6-85.8 MYA)	7.6 ft (2.3 m)	Lion	China	A long-necked therizinosauroid with a deep lower jaw.
<i>Segnosaurus</i>	slow reptile	Late Cretaceous	(99.6-85.8 MYA)	23 ft (7 m)	Rhino	China; Mongolia	The first therizinosaurid known from more than its arms. First considered a fish-eating theropod.
* <i>Suzhousaurus</i>	Suzhou [ancient name for Jiuquan area of China] reptile	Early Cretaceous	(145.5-125 MYA)	23 ft (7 m)	Rhino	China	A large Chinese therizinosauroid, closely related to <i>Nothronychus</i> .
<i>Therizinosaurus</i>	scythe reptile	Late Cretaceous	(70.6-68.5 MYA)	31.5 ft (9.6 m)	Elephant	Mongolia	The largest known therizinosauroid, known from its enormous, powerful arms. Partial hind limbs from the same rocks probably belong to this species.

**Primitive Oviraptorosaurs—Early Egg-Thief Dinosaurs (Chapter 19)**

Oviraptorosauria was a diverse group of short-beaked omnivorous theropods.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Caenagnathasia</i>	<i>Caenagnathus</i> from Asia	Late Cretaceous	(93.5-89.3 MYA)	3.3 ft (1 m)?	Turkey	Uzbekistan	Known from toothless jaws.
<i>Caenagnathus</i>	recent jaws	Late Cretaceous	(80-72.8 MYA)	6.6 ft (2 m)?	Wolf	Alberta	Known only from jaws. Once thought to be the same dinosaur as <i>Chirostenotes</i> , but this is much less certain now.
<i>Calamospondylus</i>	reed vertebrae	Early Cretaceous	(130-125 MYA)	?	?	England	Isolated vertebrae suggest it is either an early oviraptorosaur or a therizinosaur.
<i>Caudipteryx</i>	tail wing	Early Cretaceous	(125-110.6 MYA)	3 ft (90 cm)	Turkey	China	One of the most common dinosaurs from the Yixian Formation of China.
<i>Incisivosaurus</i>	incisor reptile	Early Cretaceous	(128.2-125 MYA)	3 ft (90 cm)?	Turkey	China	Known only from a skull, which may be the head of <i>Protarchaeopteryx</i> or a close relative.
<i>Protarchaeopteryx</i>	first <i>Archaeopteryx</i>	Early Cretaceous	(125-120 MYA)	2.3 ft (70 cm)	Turkey	China	Known from an incomplete skeleton, which may actually be the body of <i>Incisivosaurus</i> or a close relative. Some studies place it closer to birds.
<i>Shanyangosaurus</i>	Shanyang Formation reptile	Late Cretaceous	(70.6-65.5 MYA)	5.6 ft (1.7m)	Beaver	China	Known from an incomplete skeleton. May be some other kind of maniraptoran.

* <i>Similicaudipteryx</i>	similar to <i>Caudipteryx</i>	Early Cretaceous	(125-110.6 MYA)	3 ft (90 cm)	Turkey	China	A close relative of (and perhaps simply one or more new species of) <i>Caudipteryx</i> . Some impressions suggest a change in its plumage between juvenile and adult phases, as seen in many modern birds.
<i>Thecocoelurus</i>	sheathed <i>Coelurus</i>	Early Cretaceous	(130-125 MYA)	23 ft (7 m)?	Grizzly bear	England	Known only from an incomplete vertebra. Possibly a therizinosauroid rather than an oviraptorosaur. Or something else altogether.

#### \*\* Primitive Caenagnathoids—Primitive Members of the Advanced Egg-Thief Dinosaurs (Chapter 19)

New analyses have reorganized our understanding of the relationships among the oviraptorosaurs. Among the advanced group (Caenagnathoidea), some group into the Elmsauridae, some into the Oviraptoridae, and others lie outside these two. This last batch are the ones listed here.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Avimimus</i>	bird mimic	Late Cretaceous	(99.6-70.6 MYA)	4.9 ft (1.5 m)	Turkey	China; Mongolia	A weird, fat-bodied, long-necked, short-tailed, long-legged early oviraptorosaur. Trackways suggest that it lived in big herds.
<i>Microvenator</i>	small hunter	Early Cretaceous	(118-110 MYA)	4.3 ft (1.3 m)	Turkey	Montana	Known from a fragmentary skeleton. Was going to be called " <i>Megadontosaurus</i> " (big-tooth reptile) because it was once thought that the teeth of the much larger <i>Deinonychus</i> belonged to it! Some analyses place it as an elmsaurid.
<i>Nomingia</i>	from the Nomingiin region [Gobi Desert]	Late Cretaceous	(70.6-68.5 MYA)	4.9 ft (1.5 m)	Turkey	Mongolia	Only the hind end of this dinosaur is known, showing that it had a stump tail (pygostyle) like advanced avialians. May be an elmsaurid or a oviraptorid.

#### \*\* Elmsaurids—Shorter-Armed, Long-Legged Egg-Thief Dinosaurs (Chapter 19)

Called "Caenagnathidae" in the book, but new analyses show that *Caenagnathus* was likely a more primitive type of oviraptorosaur. The elmsaurids were a group of fast-running oviraptorosaurs with an arctometatarsus. It may be that as some of the more complete skeletons are studied in detail, we will find that "elmsaurids" and "oviraptorids" are not distinct groups.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Chirostenotes</i>	narrow-handed one	Late Cretaceous	(80-72.8 MYA)	6.6 ft (2 m)?	Wolf	Alberta	The first oviraptorosaur known from North America.
<i>Elmsaurus</i>	hind-foot reptile	Late Cretaceous	(80-68.5 MYA)	6.6 ft (2 m)?	Wolf	Mongolia; Alberta; Montana	First known from hand and feet.
* <i>Epichirostenotes</i>	above <i>Chirostenotes</i> [since it occurs later in geologic time]	Late Cretaceous	(72-66.8 MYA)	6.6 ft (2 m)?	Wolf	Alberta	Previously considered a species of <i>Chirostenotes</i> .
<i>Hagryphus</i>	claws of the western desert	Late Cretaceous	(80-72.8 MYA)	9.8 ft (3 m)?	Sheep	Utah	A newly discovered large North American oviraptorosaur.
* <i>Ojoraptorsaurus</i>	Ojo [Alamo Formation] thief reptile	Late Cretaceous	(72-66.8 MYA)	6.6 ft (2 m)?	Wolf	New Mexico	An oviraptorosaur from the American Southwest.
Not yet officially named		Late Cretaceous	(66.8-65.5 MYA)	16.4 ft (5 m)	Lion	Montana, South Dakota	Was the largest known oviraptorosaur until <i>Gigantoraptor</i> was found.

#### \*\* Oviraptorids—Strong-Armed, Stout-Legged Egg-Thief Dinosaurs (Chapter 19)

Oviraptorids typically have more powerful arms and shorter, stouter legs than elmsaurids.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Banji</i>	striped crest	Late Cretaceous	(time very uncertain)	4.9 ft (1.5 m)	Turkey	China	Known only from a crested skull with side ridges. Probably not an adult.
<i>Citipati</i>	Citipati [Tantric Buddhist lord of the cemeteries]	Late Cretaceous	(85.8-70.6 MYA)	8.9 ft (2.7 m)	Wolf	Mongolia	Known from several nearly complete skulls and skeletons. One of the skulls of this crested dinosaur was often labeled " <i>Oviraptor</i> " in older drawings, before it was recognized as a distinct genus. Several individuals have been found lying on their nests.
<i>Conchoraptor</i>	shellfish thief	Late Cretaceous	(85.8-70.6 MYA)	4.9 ft (1.5 m)	Turkey	Mongolia	Had only a small crest. Its name was given based on the idea that it was a shellfish-eater (small clams are known from the deposits in which it was found).
* <i>Gigantoraptor</i>	giant thief	Late Cretaceous	(95-80 MYA)	28.2 ft (8.6 m)	Rhino	China	By far the largest of oviraptorosaurs, about the size of the tyrannosaurid <i>Albertosaurus</i> . Has the longest legs known of any theropod. Giant theropod nests known from Late Cretaceous China and Mongolia may have been laid by <i>Gigantoraptor</i> or its closest relatives. There is the possibility that <i>Gigantoraptor</i> is an elmsaurid rather than an oviraptorid.
<i>Heyuania</i>	for Heyuan City [China]	Late Cretaceous	(time very uncertain)	4.9 ft (1.5 m)	Turkey	China	Known from some very good skeletons.
<i>Khaan</i>	ruler	Late Cretaceous	(85.8-70.6 MYA)	4.9 ft (1.5 m)	Turkey	Mongolia	Known from several nearly complete skulls and skeletons. Similar to <i>Conchoraptor</i> and " <i>Ingenia</i> ."
* <i>Luoyanggia</i>	Ruyan [Basin]	Late Cretaceous	(99.6-93.6 MYA)	4.9 ft (1.5 m)	Turkey	China	One of the oldest oviraptorids.

* <i>Machairasaurus</i>	knife reptile	Late Cretaceous	(83.5-68 MYA)	4.9 ft (1.5 m)	Turkey	China	Had relatively lightly-built claws for an oviraptorosaur.
<i>Nemegtomaia</i>	good mother of the Nemegt Formation	Late Cretaceous	(70.6-68.5 MYA)	4.9 ft (1.5 m)	Turkey	Mongolia	First known as " <i>Nemegtia</i> ," but that name was already used for a crustacean.
<i>Oviraptor</i>	egg thief	Late Cretaceous	(85.8-70.6 MYA)	4.9 ft (1.5 m)	Turkey	Mongolia	Had a somewhat longer skull than other oviraptorids. The original specimen was found associated with a nest of eggs, which were mistakenly thought to be <i>Protoceratops</i> eggs.
<i>Rinchenia</i>	for Rinchen [Barsbold, Mongolian paleontologist]	Late Cretaceous	(70.6-68.5 MYA)	4.9 ft (1.5 m)	Turkey	Mongolia	A very tall, crested oviraptorid.
<i>Shixinggia</i>	for Shixing County [China]	Late Cretaceous	(70.6-65.5 MYA)	4.9 ft (1.5 m)?	Turkey?	China	Only a partial skeleton is known.
	No official genus name; formerly " <i>Ingenia</i> " <i>yanshini</i>	Late Cretaceous	(85.8-68.5 MYA)	5.9 ft (1.8 m)	Turkey	Mongolia	Originally called " <i>Ingenia</i> ," but that name actually belongs to an insect.
	* Not yet officially named	Late Cretaceous	(85.8-70.6 MYA)	4.9 ft (1.5 m)	Turkey	Mongolia	A crested oviraptorid, once thought to be a specimen of <i>Oviraptor</i> .

#### \*\* Archaeopterygids—Long-Tailed, Long-Armed Protobirds or Primitive Raptors (Chapter 21)

Archaeopterygidae is a group comprised of *Archaeopteryx* and its closest relatives. For a very long time these were thought to be the most primitive birds. In at least some analyses these dinosaurs were found not to be avialians at all, but instead primitive deinonychosaurs. These forms were probably not particularly good fliers.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Anchiornis</i>	near to the birds	Late Jurassic	(161.2-155.7 MYA)	13.8 in (35 cm)	Pigeon	China	Originally thought to be an <i>Archaeopteryx</i> -like avialian, then a troodontid, and now as an archaeopterygid deinonychosaur. Analysis of its feathers show that it had a dark body cover with white bands on its arm feathers and a red crest.
<i>Archaeopteryx</i>	ancient wing	Late Jurassic	(150.8-145.5 MYA)	1.3 ft (40 cm)	Chicken	Germany; Portugal?	For many decades the best-known primitive bird. May actually be less closely related to modern birds than are deinonychosaurs.
* <i>Xiaotingia</i>	for [founder of the Shandong Tianyu Museum of Nature Zheng] Xiaoting	Late Jurassic	(161.2-155.7 MYA)	1.3 ft (40 cm)	Chicken	China	Unlike other archaeopterygids, its teeth are more bulbous, which suggest that it may have eaten plants and/or small shellfish.
<i>Wellnhoferia</i>	for [German paleontologist Peter] Wellnhofer	Late Jurassic	(150.8-145.5 MYA)	1.5 ft (45 cm)	Chicken	Germany	Very similar to, and possibly the same as, <i>Archaeopteryx</i> .

#### Primitive Dromaeosaurids—Early Raptor Dinosaurs (Chapter 20)

The group of raptor dinosaurs—Deinonychosauria—contains two major divisions. One of these, the Dromaeosauridae, has heavier, shorter legs and longer arms.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Dromaeosauroides</i>	like <i>Dromaeosaurus</i>	Early Cretaceous	(145.5-136.4 MYA)	?	?	Denmark	Known only from teeth.
* <i>Luanchuanraptor</i>	thief of Luanchuan County [China]	Late Cretaceous	(time very uncertain)	5.9 ft (1.8 m)?	Turkey	China	First dromaeosaurid found in China outside of either the Gobi Desert or the northeastern region.
* <i>Mahakala</i>	Mahakala [a protector god in Tibetan Buddhism]	Late Cretaceous	(85.8-70.6 MYA)	2.3 ft (70 cm)	Chicken	Mongolia	Very primitive (and very small) dromaeosaurid for the time in which it lived.
<i>Ornithodesmus</i>	bird link	Early Cretaceous	(130-125 MYA)	?	Turkey	England	Known only from hip vertebrae.
* <i>Pamparaptor</i>	thief of the pampas [the grasslands of South America]	Late Cretaceous	(93.5-85.8 MYA)	2 ft (60 cm)	Chicken	Argentina	A tiny slender-footed deinonychosaur with an arctometatarsus. Shares traits with both troodontids and dromaeosaurids.
<i>Pyroraptor</i>	fire thief	Late Cretaceous	(72.8-66.8 MYA)	?	Wolf?	France	Very fragmentary. Possibly the same as <i>Variraptor</i> .
* <i>Tianyuraptor</i>	[Shandong] Tianyu [Museum of Natural History] thief	Early Cretaceous	(120-110 MYA)	5.3 ft (1.6 m)	Beaver	China	Its arms are very short for a dromaeosaurid. Seems to fit evolutionarily between Microraptorinae and the more advanced clades of Saurornitholestinae, Velociraptorinae, and Dromaeosaurinae.
<i>Variraptor</i>	thief of Var Department [France]	Late Cretaceous	(72.8-66.8 MYA)	8.9 ft (2.7 m)	Wolf?	France	Very fragmentary. Possibly the same as <i>Pyroraptor</i> .
	* Not yet officially named	Early Cretaceous	(125-99.6 MYA)	?	Beaver?	Australia	Known from some skull fragments and vertebrae, and originally thought to be from oviraptorosaurs.

#### Unenlagiines—Long-Snouted Southern Raptor Dinosaurs (Chapter 20)

Unenlagiinae is a recently discovered group of long-snouted dromaeosaurids from the southern continents. Some paleontologists consider this group (under the name "Unenlagiidae") to be primitive avialians rather than deinonychosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
^ <i>Austroraptor</i>	southern thief	Late Cretaceous	(78-65.5 MYA)	19.7 ft (6 m)	Lion	Argentina	A giant unenlagiine, nearly as big as <i>Utahraptor</i> . Had very short arms for a dromaeosaurid.
<i>Buitreraptor</i>	vulture roost [location where discovered] hunter	Late Cretaceous	(99.6-97 MYA)	4.3 ft (1.3 m)	Turkey	Argentina	The most completely known unenlagiine.
<i>Neuquenraptor</i>	Neuquén Province [Argentina] thief	Late Cretaceous	(91-88 MYA)	5.9 ft (1.8 m)	Turkey	Argentina	Incompletely known, and possibly the same dinosaur as <i>Unenlagia</i> .

<i>Rahonavis</i>	menace-from-the-cloud bird	Late Cretaceous	(70.6-65.5 MYA)	2.3 ft (70 cm)	Chicken	Madagascar	Bumps on its forearms show that powerful flight feathers were attached there.
<i>Unenlagia</i>	half bird	Late Cretaceous	(91-88 MYA)	7.5 ft (2.3 m)	Beaver	Argentina	Originally thought to be an early bird (or at least more closely related to birds than to dromaeosaurids).
<i>Unquillosaurus</i>	Unquillo River [Argentina] reptile	Late Cretaceous	(83.5-70.6 MYA)	9.8 ft (3 m)?	Wolf	Argentina	Once thought to be a carnosaur or other large theropod. Many books and Web sites have mistakenly stated that this was a 36-ft (11 m) giant! Known only from the pelvis and a few other bones.

**Microaptorines—Small Raptor Dinosaurs (Chapter 20)**

Microaptorinae is a group of small, tree-climbing raptors best known from the Early Cretaceous Epoch of China.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Graciliraptor</i>	slender thief	Early Cretaceous	(125-120 MYA)	3 ft (90 cm)	Turkey	China	Known from a skeleton that is less complete than those of the other microaptorines but of the same general form.
* <i>Hesperonychus</i>	western claws	Late Cretaceous	(80-72.8 MYA)	3 ft (90 cm)	Turkey	Alberta	A very late-surviving microaptorine.
<i>Microaptor</i>	small thief	Early Cretaceous	(120-110 MYA)	3 ft (90 cm)	Turkey	China	Known from many skeletons. Includes the specimen formerly called " <i>Cryptovolans</i> ".
* <i>Shanag</i>	Shanag [black hatted dancers in the Buddhist Tsam festival]	Early Cretaceous	(145.5-125 MYA)	2.3 ft (70 cm)	Chicken	Mongolia	A tiny dromaeosaurid, once considered as the first unenlagiine identified outside of the southern continents. However, at least some analyses place it as a microaptorine rather than an unenlagiine.
<i>Sinornithosaurus</i>	Chinese bird reptile	Early Cretaceous	(125-120 MYA)	3 ft (90 cm)	Turkey	China	The first deinonychosaur found with feathers. Had odd wrinkles on its facial bones.

**\*\* Saurornitholestines—Slender Raptor Dinosaurs (Chapter 20)**

*Saurornitholestes* and its kin form the group Saurornitholestinae within the dromaeosaurids. Some analyses place these genera within Velociraptorinae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Bambiraptor</i>	thief the size of Bambi [fictional baby deer]	Late Cretaceous	(80-72.8 MYA)	3 ft (90 cm)	Turkey	Montana	Considered by some to be a late-surviving microaptorine. Originally thought to be a North American fossil of <i>Velociraptor</i> .
<i>Saurornitholestes</i>	birdlike reptile thief	Late Cretaceous	(80-72.8 MYA)	5.9 ft (1.8 m)?	Turkey	Alberta, New Mexico	Once thought to be a dromaeosaurine.

**Velociraptorines—Slender Raptor Dinosaurs (Chapter 20)**

*Velociraptor*, *Deinonychus*, and their kin form the group Velociraptorinae within the dromaeosaurids.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Balaur</i>	Balaur [dragon of Romanian legend]	Late Cretaceous	(70.6-65.5 MYA)	6.6 ft (2 m)	Wolf	Romania	The double-barreled dromaeosaurid of Transylvania! Had two sickle-claws on each foot; short, two-fingered arms; and an extremely backwards-pointing pubis. <i>Elopteryx</i> , <i>Pyroraptor</i> , and other Late Cretaceous European dromaeosaurids may be relatives.
<i>Deinonychus</i>	terrible claws	Early Cretaceous	(118-110MYA)	13.1ft (4 m)	Wolf	Montana, Oklahoma, Wyoming, and possibly Maryland	The first dromaeosaurid known from relatively complete skeletons. One of the most important dinosaur discoveries of all because it got paleontologists thinking about dinosaur warm-bloodedness and about the relationship between dinosaurs and birds.
<i>Itemirus</i>	after the Itemir site [Uzbekistan]	Late Cretaceous	(93.5-89.3 MYA)	?	?	Mongolia	Known only from a braincase. Once thought to possibly be a primitive tyrannosauroid.
* <i>Linheraptor</i>	Linhe [District] thief	Late Cretaceous	(80-72.8 MYA)	5.9 ft (1.8 m)	Beaver	China	Very similar to <i>Tsaagan</i> . Known from an exquisite skeleton.
<i>Tsaagan</i>	white	Late Cretaceous	(85.8-70.6 MYA)	5.9 ft (1.8 m)?	Beaver	Mongolia	Known from a good skull and some vertebrae. Had a more powerful snout than most velociraptorines.
<i>Velociraptor</i>	swift thief	Late Cretaceous	(85.8-70.6 MYA)	5.9 ft (1.8 m)	Beaver	China; Mongolia	The most famous dromaeosaurid (thanks to <i>Jurassic Park</i> ), and known from many good skulls and skeletons!

**Dromaeosaurines—Heavy Raptor Dinosaurs (Chapter 20)**

Dromaeosaurinae includes the most heavily built raptor dinosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Achillobator</i>	Achilles [tendon] hero	Late Cretaceous	(99.6-85.8 MYA)	19.7 ft (6 m)	Lion	Mongolia	Only incompletely known, this is one of the largest and most heavily built dromaeosaurids.
<i>Adasaurus</i>	Ada [Mongolian evil spirit] reptile	Late Cretaceous	(70.6-68.5 MYA)	5.9 ft (1.8 m)	Beaver	Mongolia	Very little is known in detail of this Mongolian dinosaur.
<i>Atrociraptor</i>	atrocious hunter	Late Cretaceous	(72.8-66.8 MYA)	5.9 ft (1.8 m)	Beaver	Alberta	A deep-snouted dromaeosaurid, still only partially known. May be a saurornitholestine.

<i>Dromaeosaurus</i>	swift reptile	Late Cretaceous	(80-72.8 MYA)	5.9 ft (1.8 m)?	Beaver	Alberta, Montana	When it was discovered, it was thought to be a small tyrannosauroid. Only the discovery of <i>Deinonychus</i> revealed how distinctive dromaeosaurids were from other theropods.
<i>Utahraptor</i>	Utah thief	Early Cretaceous	(130-125 MYA)	23 ft (7 m)	Grizzly bear	Utah	At present, the largest known dromaeosaurid.

**Troodontids—Long-Legged Raptor Dinosaurs (Chapter 20)**

Close relatives of the dromaeosaurids, the dinosaurs in Troodontidae make up the other group of deinonychosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Archaeornithoides</i>	similar to <i>Archaeornis</i> [former name for <i>Archaeopteryx</i> ]	Late Cretaceous	(85.8-70.6 MYA)	?	?	Mongolia	Known only from an incomplete skull, once thought to be from a hatchling <i>Tarbosaurus</i> .
<i>Borogovia</i>	borogove [fictional creature from Lewis Carroll's "Jabberwocky"]	Late Cretaceous	(85.8-70.6 MYA)	6.6 ft (2 m)?	Beaver	Mongolia	Known from hind-limb material, and thought by some to be a species of <i>Sauromithoides</i> .
<i>Byronosaurus</i>	Byron's reptile [for Byron Jaffe, who helped support the expedition]	Late Cretaceous	(85.8-70.6 MYA)	4.9 ft (1.5 m)?	Turkey	Mongolia	Known from a snout and several other bones.
<i>Elopteryx</i>	marsh wing	Late Cretaceous	(70.6-65.5 MYA)	?	?	Romania	Once thought to be a bird, and later to be a dromaeosaurid.
* <i>Geminiraptor</i>	twin thief [honoring the twin paleontologists Celina and Marina Suarez]	Early Cretaceous	(130-125 MYA)	4.9 ft (1.5 m)?	Turkey	Utah	Known from only limited material, but demonstrates that troodontids were present in Early Cretaceous North America.
<i>Jinfengopteryx</i>	golden phoenix feather	Late Jurassic or Early Cretaceous	(exact age uncertain)	2.3 ft (70 cm)	Chicken	China	Originally called a primitive bird but is more likely a primitive troodontid.
<i>Koparion</i>	scalpel	Late Jurassic	(155.7-150.8 MYA)	?	?	Utah	Known only from teeth. A newly discovered Wyoming skeleton may turn out to be from <i>Koparion</i> .
* <i>Linhevenator</i>	Linhe [District] hunter	Late Cretaceous	(85.8-70.6 MYA)	6.6 ft (2 m)?	Wolf	China	Close to <i>Sauromithoides</i> , <i>Zanabazar</i> , and the North American Late Cretaceous troodontids.
<i>Mei</i>	sleeping [dragon]	Early Cretaceous	(125-120 MYA)	2.3 ft (70 cm)	Chicken	China	Known from a nearly complete skeleton, curled up as if sleeping (although it was more likely protecting itself from volcanic ash!).
<i>Sauromithoides</i>	birdlike reptile	Late Cretaceous	(85.8-70.6 MYA)	6.6 ft (2 m)?	Wolf	Mongolia; China	Known from several partial skulls and skeletons.
<i>Sinornithoides</i>	Chinese and birdlike	Early Cretaceous	(130-125 MYA)	3.9 ft (1.2 m)	Chicken	China	Like <i>Mei</i> , known from a fossil in "sleeping" position.
<i>Sinovenator</i>	Chinese hunter	Early Cretaceous	(125-120 MYA)	3.9 ft (1.2 m)	Chicken	China	A primitive troodontid with some dromaeosaurid-like features.
<i>Sinusonasus</i>	curved nose	Early Cretaceous	(125-120 MYA)	3.9 ft (1.2 m)	Chicken	China	The nose bones were found to be curved, hence the name.
* <i>Talos</i>	Talos, an ancient mythical Greek fast-moving bronze man, who was wounded in his ankle	Late Cretaceous	(76-72 MYA)	6.6 ft (2 m)	Wolf	Utah	The original specimen has a damaged foot (one of the reasons for its name). Closely related to <i>Troodon</i> proper and the Late Cretaceous Asian troodontids.
<i>Tochisaurus</i>	ostrich [foot] reptile	Late Cretaceous	(70.6-68.5 MYA)	?	?	Mongolia	Known only from a foot.
<i>Troodon</i>	wounding tooth	Late Cretaceous	(80-72.8 MYA)	7.9 ft (2.4 m)	Wolf	Alberta; Montana, Wyoming	All Late Cretaceous troodontid fossils from North America get called " <i>Troodon</i> ", but when more skeletons are discovered, it may turn out that there were several different troodontids in that region. If so, the old names " <i>Stenonychosaurus</i> " and " <i>Pectinodon</i> " might be restored.
* <i>Urbacodon</i>	URBAC [Uzbek/Russian/British/American/Canadian Joint Paleontological Expeditions] tooth	Late Cretaceous	(99.6-89.3 MYA)	4.9 ft (1.5 m)?	Turkey	Uzbekistan	Known from teeth and jaws.
* <i>Xixiasaurus</i>	Xixia [County] reptile	Late Cretaceous	(89.3-70.6 MYA)	6.6 ft (2 m)?	Beaver	China	Known from a partial skull and some few other bones.
* <i>Zanabazar</i>	Zanabazar [first head of Tibetan Buddhism in Mongolia]	Late Cretaceous	(70.6-68.5 MYA)	6.6 ft (2 m)?	Beaver	Mongolia	Based on specimens originally considered to be the younger species of <i>Sauromithoides</i> .
Not yet officially named		Late Jurassic	(155.7-150.8 MYA)	?	?	Wyoming	Known from an incomplete skeleton. The oldest North American troodontid known from bones.

**\*\* Scansoriopterygids—Tiny Long-Fingered Avialians (Chapter 21)**

Avialae includes modern birds and their ancient relatives. An early branch of Avialae, Scansoriopterygidae are not particularly "birdy". Many have quite long fingers, which may have been used to probe for insects underneath bark.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Epidendrosaurus</i>	upon-a-branch reptile	Middle Jurassic	(171.6-164.7 MYA?)	12 in (30 cm)	Pigeon	China	The original <i>Epidendrosaurus</i> was a hatchling. A second specimen was given a separate name (" <i>Scansoriopteryx</i> "), but it is probably just an adult <i>Epidendrosaurus</i> . The age of this dinosaur is uncertain; it may actually be from the Early Cretaceous.
* <i>Epidexipteryx</i>	display feather	Middle Jurassic	(171.6-164.7 MYA?)	10 in (25 cm)	Pigeon	China	A close relative of (if not the same as) <i>Epidendrosaurus</i> .

**Long-Tailed Avialians—Primitive Long-Tailed "Birds" (Chapter 21)**

These avialians are more closely related to modern birds than to Archaeopterygidae or Scansoriopterygidae, but were still also poor fliers.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Dalianraptor</i>	Dalian City [China] thief	Early Cretaceous	(121.6-110.6 MYA)	2.6 ft (80 cm)	Turkey	China	A short-armed (and therefore flightless) dinosaur. Some similarities to <i>Jeholornis</i> , but others to <i>Confuciusornis</i> . However, it might not even be a bird but a more primitive maniraptoran.
<i>Jeholornis</i>	Jehol Group [China] bird	Early Cretaceous	(120-110 MYA)	2.5 ft (75 cm)	Turkey	China	One of the most completely known long-tailed birds of the Cretaceous. Known to eat seeds.
<i>Jixiangornis</i>	[Chinese geologist Yin] Jixiang's bird	Early Cretaceous	(120-110 MYA)	2.6 ft (80 cm)	Turkey	China	Very likely the same as <i>Jeholornis</i> .
<i>Pedopenna</i>	feather foot	Middle Jurassic	(171.6-164.7 MYA?)	2 ft (60 cm)?	Chicken?	China	Known from a partial arm and leg with feathers. The age of the rocks that this dinosaur was found in is very uncertain; it may be from the Early Cretaceous.
<i>Shenzhouraptor</i>	China thief	Early Cretaceous	(120-110 MYA)	2.6 ft (80 cm)	Turkey	China	Very likely the same as <i>Jeholornis</i> .
<i>Yandangornis</i>	Yandang [China] bird	Late Cretaceous	(85.8-83.5 MYA)	2.6 ft (80 cm)	Turkey	China	A toothless, long-tailed bird or close relative.
* <i>Zhongjianornis</i>	Jianchang [locality] bird	Early Cretaceous	(120-110 MYA)	?	Pigeon	China	Despite its inclusion here, this is a short-tailed bird. It seems to be close to the evolutionary split between omnivoroptyerygids, confuciusornithids, and the more advanced birds.
* <i>Zhongornis</i>	intermediate bird	Early Cretaceous	(130-125 MYA)	4.7 in (12 cm)	Sparrow	China	A bird with a tail intermediate in length between the typical long-tailed forms and the stump-tailed forms. Since it is only a hatchling, it might be the baby of some other already-known avialian.

**\*\* Omnivoroptyerygids—Large Handy Short-Tailed Avialians (Chapter 21)**

These avialians—and all more advanced ones—have a stubby pygostyle instead of a long, bony tail. But like their primitive relatives (and unlike more advanced birds), these had fully developed hands and claws. Omnivoroptyerygids (also called "sapeornithids") were fairly large for avialians, and were likely not very good fliers.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Didactylornis</i>	two-fingered bird	Early Cretaceous	(120-110 MYA)	12 in (30 cm)	Turkey	China	Known from several specimens. Might very likely belong to <i>Sapeornis</i> .
<i>Omnivoroptyeryx</i>	winged omnivore	Early Cretaceous	(120-110 MYA)	12 in (30 cm)	Turkey	China	Very similar to, and possibly the same as, <i>Sapeornis</i> .
<i>Sapeornis</i>	Society for Avian Paleontology and Evolution bird	Early Cretaceous	(120-110 MYA)	3.9 ft (1.2 m)	Turkey	China	A fairly large early bird.
* <i>Shenshiornis</i>	Shenyang Normal University bird	Early Cretaceous	(120-110 MYA)	3.9 ft (1.2 m)	Turkey	China	Might very well be another genus that is just a new specimen of <i>Sapeornis</i> .

**\*\* Confuciusornithids—Toothless Handy Short-Tailed Birds (Chapter 21)**

Confuciusornithids were toothless small primitive avialians. Studies suggest that they were still not particularly good fliers.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Changchengornis</i>	Great Wall [China] bird	Early Cretaceous	(125-121.6 MYA)	8 in (20 cm)	Pigeon	China	A close relative of <i>Confuciusornis</i> .
<i>Chaoyangia</i>	from Chaoyang [China]	Early Cretaceous	(120-110 MYA)	6 in (15 cm)	Pigeon	China	Only the torso, hips, and legs are known. Some skeletons that were once thought to be from <i>Chaoyangia</i> are now considered to be from a different bird, <i>Songlingornis</i> .
<i>Confuciusornis</i>	[Chinese philosopher] Confucius's bird	Early Cretaceous	(125-120 MYA)	1.6 ft (50 cm)	Chicken	China	Probably the most common Mesozoic dinosaur fossil. Known from thousands of specimens. Specimens have been found with both seeds and fish bones and scales, indicating that it was an omnivore.
* <i>Eoconfuciusornis</i>	dawn <i>Confuciusornis</i>	Early Cretaceous	(136.4-130 MYA)	6 in (15 cm)	Pigeon	China	An early relative of <i>Confuciusornis</i> .
<i>Jinzhourornis</i>	Jinzhou [China] bird	Early Cretaceous	(125-120 MYA)	6 in (15 cm)	Pigeon	China	A close relative of <i>Confuciusornis</i> .
<i>Proornis</i>	preceding bird	Early Cretaceous	(130-125 MYA)	?	Pigeon	North Korea	Not yet studied in detail. The shape of its hand suggests that it is a close relative of <i>Confuciusornis</i> .

**\*\* Primitive Enantiornithines—Opposite Birds (Chapter 21)**

The most diverse group of avialians in the Cretaceous Period is Enantiornithes ("opposite birds"). The ones in the list below are the primitive members of this group.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Cerebavis</i>	brain bird	Late Cretaceous	(99.6-93.5 MYA)	?	Pigeon	Russia	Known only from a natural cast (solidified infilling) of the brain of a bird.
* <i>Dalingheornis</i>	Dalinghe [location where it was found] bird	Early Cretaceous	(125-120 MYA)	?	Pigeon	China	Has a longer bony tail than most enantiornithines. The oldest known bird with a foot in which all four toes grasp at different angles.
* <i>Elsornis</i>	sand bird	Late Cretaceous	(85.8-70.6 MYA)	?	Chicken	Mongolia	Possibly a flightless enantiornithine.

<i>Eoalulavis</i>	dawn alula [thumb-feather] bird	Early Cretaceous	(130-125 MYA)	?	Pigeon	Spain	At the time it was discovered, it was the oldest bird known to have the alula, a special feather on the thumb that helps birds steer.
<i>Iberomesornis</i>	Spanish Mesozoic bird	Early Cretaceous	(130-125 MYA)	8 in (20 cm) wingspan	Sparrow	Spain	One of the most primitive enantiornithines.
<i>Jibeinia</i>	from Jibe [China]	Early Cretaceous	(125-121.6 MYA)	?	Pigeon	China	Although sometimes described as similar to <i>Confuciusornis</i> , this seems to be a more typical toothed enantiornithine.
* <i>Paraprotopteryx</i>	parallel to <i>Protopteryx</i>	Early Cretaceous	(125-120 MYA)	5.1 in (13 cm)	Pigeon	China	First Mesozoic avialian known with four long tail feathers.
* <i>Pengornis</i>	Peng [mythological Chinese bird]	Early Cretaceous	(120-110 MYA)	1.6 ft (50 cm)	Chicken	China	One of the largest Early Cretaceous enantiornithines.
<i>Protopteryx</i>	first wing	Early Cretaceous	(136.4-130 MYA)	5.1 in (13 cm)	Pigeon	China	One of the oldest, and most primitive enantiornithines.
* <i>Qiliania</i>	heaven	Early Cretaceous	(125-112 MYA)	?	Pigeon	China	Similar to <i>Iberomesornis</i> and <i>Eoalulavis</i> . Known from legs and hips.
<i>Sazavis</i>	clay bird	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	Like many of the Bissetky Formation bird species, it is known from only fragments of bones (in this case, a lower shin).
* <i>Shenqiornis</i>	Shenzhou 7 [third human space launch from China] bird	Early Cretaceous	(136.4-130 MYA)	1 ft (30 cm) wingspan	Pigeon	China	Known from quite a bit of a skeleton. Its teeth are bulb-shaped, suggesting it may have fed on more durable food (harder insects? Shellfish? Seeds?) than other Early Cretaceous birds.

### \*\* Primitive Euenantiornithines—Advanced Opposite Birds (Chapter 21)

The more advanced members of the opposite birds belong to the group Euenantiornithes. The birds in the following list are euenantiornithines but not clearly members of any of the various subgroups (Avisauridae, Gobipterygidae, or Longipterygidae).

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Abavornis</i>	great-great-grandfather bird	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	Known only from isolated shoulder bones.
<i>Aberratiodontus</i>	unusual teeth	Early Cretaceous	(121.6-110.6 MYA)	12 in (30 cm)	Chicken	China	One of the "toothiest" early birds.
* <i>Alethoalaoornis</i>	true winged bird	Early Cretaceous	(120-110 MYA)	?	Pigeon	China	A sharp-beaked enantiornithine.
<i>Alexornis</i>	[American paleontologist] Alex [Wetmore]'s bird	Late Cretaceous	(83.5-70.6 MYA)	?	Sparrow	Mexico	Very little is known of this bird.
<i>Catenoleimus</i>	remainder of a lineage	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	Based on a particularly badly preserved fossil.
* <i>Cathayornis</i>	Cathay [old name for China] bird	Early Cretaceous	(120-110 MYA)	5.5 in (14 cm)	Pigeon	China	Known from a nearly complete skeleton. Once thought to be a specimen of <i>Sinornis</i> .
* <i>Elbretornis</i>	El Brete [locality] bird	Late Cretaceous	(93.5-65.5 MYA)	?	Pigeon	Argentina	One of many birds found at the El Brete locality.
<i>Enantiornis</i>	opposite bird	Late Cretaceous	(93.5-65.5 MYA)	3.3 ft (1 m) wingspan	Turkey	Argentina; Uzbekistan	Discovery of the South American <i>Enantiornis</i> species revealed the existence of this important group of Cretaceous birds. The Uzbekistan species may eventually be recognized as belonging to a new genus.
<i>Eocathayornis</i>	dawn <i>Cathayornis</i>	Early Cretaceous	(121.6-110.6 MYA)	?	Pigeon	China	Despite its name, it does not seem to be particularly closely related to <i>Cathayornis</i> (now <i>Sinornis</i> ).
<i>Explornis</i>	discoverer bird	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	Known from several parts of the skeleton, but not yet fully described.
* <i>Flexornis</i>	flexed shoulder bird	Late Cretaceous	(99.6-93.5 MYA)	?	Pigeon	Texas	A mid-sized enantiornithine. One of the oldest flying birds of North America.
* <i>Gracilornis</i>	slender bird	Early Cretaceous	(120-110 MYA)	?	Pigeon	China	Known from a nearly complete skeleton.
<i>Gurilynia</i>	from Gurilyn Tsav [Mongolia]	Late Cretaceous	(70.6-68.5 MYA)	?	Chicken	Mongolia	A relatively large enantiornithine.
* <i>Huoshanornis</i>	volcano bird	Early Cretaceous	(120-110 MYA)	7.9 in (20 cm)	Pigeon	China	Known from a nearly complete skeleton.
<i>Incolornis</i>	inhabitant bird	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	Known only from some shoulder bones.
<i>Kuszholia</i>	Milky Way	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	Several possible parts of the skeleton from this bird have been found, but it is uncertain if they really belong together.
<i>Kyzylkumavis</i>	Kyzylkum [Kazakhstan] bird	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	As with most of the bird fossils discovered in the Bissetky Formation, only fragments of bones are known (in this case, a humerus).
<i>Largirostromis</i>	large-snout bird	Early Cretaceous	(120-110 MYA)	?	Chicken	China	One of several long-snouted enantiornithines.
<i>Lectavis</i>	Lecho Formation bird	Late Cretaceous	(70.6-65.5 MYA)	?	Pigeon	Argentina	Only partial hind limbs are known.
<i>Lenesornis</i>	[Russian paleontologist] Lev Nessonov's bird	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	Known only from some hip vertebrae.
<i>Liaxiornis</i>	Liaoxi [China] bird	Early Cretaceous	(125-120 MYA)	3 in (7 cm)	Sparrow	China	One of the smallest known Mesozoic birds, but possibly only a juvenile of a larger species.
<i>Longchengornis</i>	Longcheng [China] bird	Early Cretaceous	(121.6-110.6 MYA)	?	Pigeon	China	Not much is yet known about this bird.
* <i>Martinavis</i>	[American paleornithologist Larry] Martin's bird	Late Cretaceous	(72-67 MYA)	?	Pigeon	Argentina; France; New Mexico	One of the most widespread fossil avialians.

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

<i>Nanantius</i>	dwarf <i>Enantiornis</i>	Early to Late Cretaceous	(112-70.6 MYA)	?	Pigeon	Australia; possibly Mongolia	The Mongolian fossils show that it was toothless, but it likely belongs to a new genus.
<i>Noguerosis</i>	Noguera River [Spain] bird	Early Cretaceous	(145.5-128 MYA)	?	Pigeon	Spain	One of several species of enantiornithine known from the Cretaceous of Spain.
<i>Otogornis</i>	Otog-qi [Inner Mongolia] bird	Early Cretaceous	(121.6-110.6 MYA)	?	Pigeon	China	Known only from the forelimb and shoulder.
<i>Sinornis</i>	Chinese bird	Early Cretaceous	(120-110 MYA)	5.5 in (14 cm)	Pigeon	China	The first enantiornithine known from a nearly complete skeleton.
<i>Yungavolucris</i>	Yunga [Argentina] bird	Late Cretaceous	(70.6-65.5 MYA)	?	Pigeon	Argentina	Known from a series of feet.
<i>Zhyraornis</i>	Dzhyrakuduk [Uzbekistan] bird	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	Known only from two sets of hip vertebrae.

#### \*\* Avisaurids—Advanced Opposite Birds (Chapter 21)

The Avisauridae is one of the most advanced groups within Euenantiornithes.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Avisaurus</i>	bird reptile	Late Cretaceous	(80-65.5 MYA)	3.9 ft (1.2 m) wingspan	Turkey	Argentina; Montana	Possibly a hunting bird, sort of an enantiornithine equivalent of a hawk.
* <i>Bauxitornis</i>	bauxite [rock type] bird	Late Cretaceous	(85.8-83.5 MYA)	3.9 ft (1.2 m) wingspan	Turkey	Hungary	A large avisaurid, related to <i>Avisaurus</i> and <i>Soroavisaurus</i> .
<i>Concornis</i>	Cuenca Province [Spain] bird	Early Cretaceous	(130-125 MYA)	6 in (15 cm)	Pigeon	Spain	One of the first enantiornithines known from a good skeleton.
<i>Cuspirostrisornis</i>	pointed-snout bird	Early Cretaceous	(120-110 MYA)	?	Chicken	China	Possibly a close relative of <i>Avisaurus</i> .
* <i>Enantiophoenix</i>	opposite phoenix [mythological bird]	Late Cretaceous	(99.6-93.5 MYA)	5.5 in (14 cm)	Sparrow	Lebanon	One of the first dinosaur fossils from Lebanon.
<i>Halimornis</i>	marine bird	Late Cretaceous	(83.5-80 MYA)	?	Pigeon	Alabama	Found in rocks that were deposited about 50 km off what was then the shoreline, showing that at least some enantiornithines were seabirds.
* <i>Intiornis</i>	sun bird	Late Cretaceous	(83.5-70.6 MYA)	?	Sparrow	Argentina	Only a foot is known. Very similar to <i>Soroavisaurus</i> . Seems to have been a good percher.
* <i>Mystiornis</i>	mysterious bird	Early Cretaceous	(130-112 MYA)	?	Chicken?	Russia	Known only from a foot. Considered by its discoverer to be only distantly related to any other bird, but appears to be an avisaurid. Possibly a diving bird.
<i>Neuquenornis</i>	Neuquén Province [Argentina] bird	Late Cretaceous	(86-83 MYA)	?	Pigeon	Argentina	Known from a partial skeleton and eggs with embryos.
<i>Soroavisaurus</i>	sister to <i>Avisaurus</i>	Late Cretaceous	(70.6-65.5 MYA)	?	Chicken	Argentina	Known only from a foot. Named because it seems to be the "sister group" (that is, the closest relative) to true <i>Avisaurus</i> .

#### \*\* Gobipterygids—Advanced Opposite Birds (Chapter 21)

Gobipterygidae is group of generally small euenantiornithines.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Gobipteryx</i>	Gobi Desert wing	Late Cretaceous	(85.8-70.6 MYA)	?	Pigeon	Mongolia	Known from a pair of toothless skulls.
<i>Vescornis</i>	thin [-fingered] bird	Early Cretaceous	(125-121.6 MYA)	4.7 in (12 cm)	Pigeon	China	Like many enantiornithines, it still had small claws on its wings.

#### \*\* Longipterygids—Advanced Opposite Birds (Chapter 21)

Longipterygidae is a third group of euenantiornithines.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Bohaiornis</i>	Bohai [inland sea] bird	Early Cretaceous	(125-120 MYA)	1 ft (30 cm)	Chicken	China	Very close to <i>Eoenantiornis</i> .
<i>Boluochia</i>	from Boluochi [China]	Early Cretaceous	(120-110 MYA)	?	Pigeon	China	Once thought to be a toothless member of Enantiornithes, but no known to have small teeth. Once thought to be a close relative of <i>Gobipteryx</i> , a new analysis shows it to be a longipterygid.
<i>Dapingfangornis</i>	Dapingfang [site in China] reptile	Early Cretaceous	(121.6-110.6 MYA)	?	Chicken	China	Known (like most Cretaceous birds) from a crushed specimen. It has some similarities to <i>Vescornis</i> and others to <i>Aberratiodontus</i> .
<i>Eoenantiornis</i>	dawn <i>Enantiornis</i>	Early Cretaceous	(125-121.6 MYA)	4 in (10 cm)	Sparrow	China	Had a relatively short, blunt snout.
<i>Longipteryx</i>	long wing	Early Cretaceous	(120-110 MYA)	5.7 in (14.5 cm)	Pigeon	China	A long-snouted enantiornithine that may have caught fish.
<i>Longirostravis</i>	long-snout bird	Early Cretaceous	(125-121.6 MYA)	5.7 in (14.5 cm)	Pigeon	China	Another long-snouted enantiornithine. May have probed in the mud to find worms and crustaceans to eat.
* <i>Rapaxavis</i>	grasping bird	Early Cretaceous	(120-110 MYA)	7.5 in (19 cm)	Pigeon	China	One of the best preserved longipterygids, known from an essentially complete skeleton.
* <i>Shanweinia</i>	fan-tailed bird	Early Cretaceous	(125-121.6 MYA)	?	Pigeon	China	Unlike most enantiornithines, this long-snouted genus had a feathered tail-fan (convergent with euornithine birds).

* Not yet officially named	Early Cretaceous	(115-105 MYA)	?	Pigeon	China	Known from a wing and assorted bones. From the same age as another unnamed enantiornithine and the euornithine <i>Gansus</i> .
* Not yet officially named	Early Cretaceous	(115-105 MYA)	?	Pigeon	China	Known from a wing and assorted bones, but distinct from the unnamed species mentioned above. From the same age as another unnamed enantiornithine and the euornithine <i>Gansus</i> .

**\*\* Primitive Euornithines—Close Relatives of Modern Birds (Chapter 21)**

Euronithes ("true birds") is the group of modern birds and all avialians more closely related to them than to enantiornithines. The euornithines in this list are more distantly related to modern birds than are hesperornithines.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Alamitornis</i>	Los Alamos Formation bird	Late Cretaceous	(80-65.5 MYA)	?	Pigeon?	Argentina	Only a few parts are known of this tiny bird. It seems to be a close relative of <i>Patagopteryx</i> .
<i>Ambiortus</i>	uncertain origin	Early Cretaceous	(136.4-125 MYA)	?	Chicken	Mongolia	Its name refers to the fact that it has a mixture of advanced and primitive features.
<i>Archaeorhynchus</i>	ancient beak	Early Cretaceous	(125-120 MYA)	?	Pigeon	China	Has a broad bill somewhat similar to a duck's.
<i>Eurolimnornis</i>	European <i>Limnornis</i>	Early Cretaceous	(142-128 MYA)	?	Pigeon	Romania	Only a few parts are known. Thought by some to be an avian; possibly an early relative of <i>Ichthyornis</i> or some other type of now-extinct bird.
<i>Gargantuavis</i>	Gargantua [mythological French giant] bird	Late Cretaceous	(70.6-65.5 MYA)	?	Beaver	France	Possibly the largest bird of the Mesozoic.
<i>Holbotia</i>	from Kholbotu [Mongolia]	Early Cretaceous	(136.4-125 MYA)	?	Chicken	Mongolia	Possibly the same as <i>Ambiortus</i> .
* <i>Hollanda</i>	after the Holland family, who helped fund the research	Late Cretaceous	(85.8-70.6 MYA)	?	Chicken	Mongolia	A fast-running ground bird, perhaps ecologically similar to the modern roadrunner.
<i>Hongshanornis</i>	Hongshan [ancient Chinese culture] bird	Early Cretaceous	(125-121.6 MYA)	5.5 in (14 cm)	Pigeon	China	Known from a complete skeleton with feather impressions. Had a small bony structure somewhat resembling the predatory bone of ornithischians in front of the lower jaws.
<i>Horezmavis</i>	Khorezm [Uzbekistan] bird	Late Cretaceous	(93.5-89.3 MYA)	?	Pigeon	Uzbekistan	Known only from a foot.
<i>Hulsanpes</i>	Khulsan [Mongolia] foot	Late Cretaceous	(70.6-68.5 MYA)	?	Chicken	Mongolia	Known only from a foot. Originally considered a dromaeosaurid (which it might actually be).
* <i>Jianchangornis</i>	Jianchang [District] bird	Early Cretaceous	(125-120 MYA)	?	Chicken	China	Still has belly ribs (a relatively primitive trait).
* <i>Liaoningornis</i>	Liaoning [China] bird	Early Cretaceous	(125-120 MYA)	?	Sparrow	China	One of the first fossil birds found in China. Almost certainly just the baby of one of the other Chinese bird species.
<i>Limenavis</i>	threshold bird	Late Cretaceous	(72.8-66.8 MYA)	?	Pigeon	Argentina	Known only from a partial wing.
* <i>Longicrusavis</i>	long shin bird	Early Cretaceous	(125-120 MYA)	4.7 in (12 cm)	Pigeon	China	Known from a nearly complete skeleton. Very closely related to <i>Hongshanornis</i> . As the name implies, it had long legs.
<i>Palaeocursornis</i>	ancient running bird	Early Cretaceous	(142-128 MYA)	?	Turkey	Romania	Known only from a poorly preserved thighbone. Thought by some to be an early representative of the group containing modern ostriches and tinamous, but more likely from some other group of extinct birds.
* <i>Parahongshanornis</i>	near to <i>Hongshanornis</i>	Early Cretaceous	(120-110 MYA)	27.6 (70 cm) wingspan	Chicken	China	Relatd to <i>Hongshanornis</i> and <i>Longicrusavis</i> .
<i>Patagopteryx</i>	Patagonia [Argentina] wing	Late Cretaceous	(86-83 MYA)	1.6 ft (50 cm)	Turkey	Argentina	Known from much of a skeleton (although not a complete skull). An early flightless bird.
<i>Piksi</i>	big bird	Late Cretaceous	(80-72.8 MYA)	?	Chicken	Montana	From what is known, it seems to be a heavy-bodied ground bird, something like a modern chicken or turkey.
<i>Platanavis</i>	sycamore bird	Late Cretaceous	(93.5-89.3 MYA)	?	Chicken	Uzbekistan	Known from a set of hip vertebrae.
<i>Vorona</i>	bird	Late Cretaceous	(70.6-65.5 MYA)	?	Pigeon	Madagascar	Known only from its legs.
<i>Wyleyia</i>	for [British fossil collector J. F.] Wyley	Early Cretaceous	(130-125 MYA)	?	Pigeon	England	May actually be a non-avian maniraptoran.

**\*\* Yanornithiforms—Medium-Sized Chinese Euornithines (Chapter 21)**

A recently recognized group of Cretaceous Chinese birds.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Songlingornis</i>	Songling [Mountains] bird	Early Cretaceous	(120-110 MYA)	?	Sparrow	China	A close relative of <i>Yanornis</i> and <i>Yixianornis</i> .
<i>Yanornis</i>	Yan Dynasty bird	Early Cretaceous	(120-110 MYA)	11 in (27.5 cm)	Chicken	China	Ate fish and possibly plants, too. A famous hoax claimed the existence of <i>Archaeoraptor</i> , whose "skeleton" combined the front end of a specimen of <i>Yanornis</i> with the back end of a specimen of the dromaeosaurid <i>Microraptor</i> .
<i>Yixianornis</i>	Yixian Formation bird	Early Cretaceous	(120-110 MYA)	8 in (20 cm)	Chicken	China	A close relative of <i>Yanornis</i> .

**Hesperornithines—Flightless, Toothed Swimming Birds (Chapter 21)**

Hesperornithes is the group of toothed swimming birds of the Late Cretaceous.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Asiahesperornis</i>	Asian <i>Hesperornis</i>	Late Cretaceous	(85.8-80 MYA)	?	Turkey	Kazakhstan	Only some vertebrae and partial legs are known.
<i>Baptornis</i>	diving bird	Late Cretaceous	(87-82 MYA)	3.9 ft (1.2 m)	Turkey	Kansas	A nearly complete skeleton is known.
<i>Canadaga</i>	Canadian bird	Late Cretaceous	(70.6-65.5 MYA)	4.9 ft (1.5 m)	Beaver	Northwest Territories	The last, and largest known, hesperornithine.
<i>Coniornis</i>	Cretaceous bird	Late Cretaceous	(80-72.8 MYA)	?	Turkey	Montana	Known from vertebrae and shinbones.
<i>Enaliornis</i>	seabird	Late Cretaceous	(99.6-93.5 MYA)	?	Chicken	England	Known from fragmentary skeletons. One of the oldest known hesperornithines, and possibly capable of flying.
<i>Hesperornis</i>	Western bird	Late Cretaceous	(87-82 MYA)	4.6 ft (1.4 m)	Beaver	Alberta, Manitoba, Northwest Territories; Kansas, Nebraska	The best-studied and most commonly discovered hesperornithine, known from dozens of skulls and skeletons.
<i>Judinornis</i>	Yudin's bird	Late Cretaceous	(70.6-68.5 MYA)	?	Turkey?	Mongolia	Incompletely known. Apparently lived in freshwater.
<i>Paraesperornis</i>	near <i>Hesperornis</i>	Late Cretaceous	(87-82 MYA)	3.9 ft (1.2 m)	Turkey	Kansas	A nearly complete skeleton is known.
<i>Pasquiaornis</i>	Pasquia Hills bird	Late Cretaceous	(99.6-93.5 MYA)	?	Turkey	Saskatchewan	Known from leg bones and one skull bone.
<i>Potamornis</i>	river bird	Late Cretaceous	(66.8-65.5 MYA)	?	Turkey	Wyoming	Known from very few bones; apparently lived in freshwater.

#### \*\* Advanced Euornithines—Close Relatives of Modern Birds (Chapter 21)

The birds in this list are closely related to modern birds and hesperornithines.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Apsaravis</i>	Apsara [Buddhist and Hindu female cloud spirits] bird	Late Cretaceous	(85.8-70.6 MYA)	?	Chicken	Mongolia	One of the most complete bird fossils of the Late Cretaceous—sadly, lacking a skull. Very close to true avians. Known from many skeletons (but not yet a head!). Webbed feet and heavier wings suggest it was a foot-propelled diver, like modern loons and grebes.
<i>Gansus</i>	from Gansu Province [China]	Early Cretaceous	(115-105 MYA)	?	Chicken	China	Known from many skeletons (but not yet a head!). Webbed feet and heavier wings suggest it was a foot-propelled diver, like modern loons and grebes.
<i>Guildavis</i>	[American fossil collector E. W.] Guild's bird	Late Cretaceous	(87-82 MYA)	?	Chicken	Kansas	Once considered a species of <i>Ichthyornis</i> .
<i>Iaceornis</i>	neglected bird	Late Cretaceous	(87-82 MYA)	9.8 in (25 cm)	Chicken	Kansas	Once considered a species of <i>Ichthyornis</i> .
<i>Ichthyornis</i>	fish bird	Late Cretaceous	(87-82 MYA)	9.8 in (25 cm)	Chicken	Alabama, Kansas	One of the first fossil birds discovered in North America, and one of the first fossil birds that showed that many Cretaceous birds still had teeth.

#### Avians—Modern-Style Birds (Chapter 21)

The genera listed below are members of the group of modern-style birds—Aves—which was present in the Cretaceous Period. All birds alive today are avians.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Anatalavis</i>	duck-winged bird	Late Cretaceous to Paleogene	(66.8-48.6 MYA)	?	Chicken	England; New Jersey	A primitive member of the duck and goose group. The best fossils are from the Paleogene Period of the Cenozoic Era, but fragmentary fossils from the very end of the Cretaceous Period in New Jersey seem to belong to an old species of this genus.
<i>Apatornis</i>	deceptive [vertebra] bird	Late Cretaceous	(87-82 MYA)	?	Chicken	Kansas	Once thought to be a species of <i>Ichthyornis</i> .
<i>Austinornis</i>	Austin [Texas] bird	Late Cretaceous	(87-82 MYA)	?	Chicken	Texas	A primitive member of the chicken and pheasant group.
<i>Ceramornis</i>	Cretaceous bird	Late Cretaceous	(66.8-65.5 MYA)	?	Chicken	Wyoming	Known only from a shoulder bone, which resembles those of modern shorebirds.
<i>Cimolopteryx</i>	Cretaceous wing	Late Cretaceous	(80-65.5 MYA)	?	Chicken	Alberta, Saskatchewan; Wyoming	Possibly an early representative of the modern shorebirds.
<i>Gallornis</i>	French bird [also, chicken bird]	Early Cretaceous	(145.5-130 MYA)	?	Chicken	France	Known only from fragments of the arm and leg. May not actually be an avian.
<i>Graculavus</i>	cormorant ancestor	Late Cretaceous	(66.8-65.5 MYA)	?	Turkey	New Jersey, Wyoming	A relatively large bird.
<i>Laornis</i>	stone bird	Late Cretaceous	(66.8-64 MYA)	?	Chicken	New Jersey	One of the last birds of the Age of Dinosaurs.
<i>Lonchodytes</i>	Lance Formation diver	Late Cretaceous	(66.8-65.5 MYA)	?	Chicken.	Wyoming	A single partial foot is the only known specimen; perhaps an early relative of the modern petrels.
<i>Neogaeornis</i>	New World bird	Late Cretaceous	(70.6-65.5 MYA)	?	Chicken	Chile	One of the first Cretaceous birds discovered in South America. A possible close relative of modern loons.
<i>Novacaesareala</i>	from New Jersey	Late Cretaceous to Paleogene	(66.8-64MYA)	?	Chicken	New Jersey	A relative of <i>Torotix</i> , and therefore an early representative of the group containing, pelicans, frigate birds and cormorants.
<i>Palaeotringa</i>	ancient shore bird	Late Cretaceous to Paleogene	(66.8-64MYA)	?	Chicken	New Jersey	Several isolated bones are known, but it is uncertain to which group of modern birds it is most closely related.
<i>Palintropus</i>	backward bender	Late Cretaceous	(80-65.5 MYA)	?	Chicken	Alberta; Wyoming	A Cretaceous member of the chicken and pheasant group.

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

<i>Polarornis</i>	polar bird	Late Cretaceous	(66.8-65.5 MYA)	?	Chicken	Antarctica	Known only from very fragmentary remains. Thought to possibly be an early relative of the loons.
<i>Telmatomis</i>	marsh bird	Late Cretaceous to Paleogene	(66.8-64MYA)	?	Chicken	New Jersey	Possibly the same as <i>Cimolopteryx</i> .
<i>Teviornis</i>	[Russian paleontologist Victor] Tereschenko's bird	Late Cretaceous	(70.6-68.5 MYA)	?	Chicken	Mongolia	Possibly a relative of the ancestors of ducks and geese.
<i>Torotix</i>	flamingo	Late Cretaceous	(66.8-65.5 MYA)	?	Chicken	Wyoming	Despite its name, it seems to be an early representative of the modern group of seabirds that contains pelicans, frigate birds, and cormorants.
<i>Tythostonyx</i>	little spur	Late Cretaceous to Paleogene	(66.8-64MYA)	?	Chicken	New Jersey	Considered by some to be an early member of the major seabird group that contains albatrosses, petrels, and shearwaters.
<i>Vegavis</i>	Vega Island [Antarctica] bird	Late Cretaceous	(70.6-65.5 MYA)	?	Chicken	Antarctica	A Cretaceous duck.
<i>Volgavis</i>	Volga River bird	Late Cretaceous to Paleogene	(66.8-64 MYA)	?	Chicken	Russia	Possibly an early relative of the modern pelican and frigate bird group.
Not yet officially named		Late Cretaceous	(85.8-70.6 MYA)	?	Pigeon	Mongolia	Known only from embryos found in eggs.

#### \*\* Gaaibasaurids—Most Primitive Early Long-Necked Plant-Eating Dinosaurs (Chapter 22)

Recent work shows that the most primitive members of the sauropodomorphs form a single group, Gaaibasauridae. These genera are all small (1-2 m long), bipedal, and may have been omnivores rather than herbivores.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Agnosphitys</i>	unknown begetter	Late Triassic	(228-204 MYA)	2.3 ft (70 cm)	Chicken	England	At first it was not certain if this is a dinosaur or just a very close relative, it is now recognized as a gaaibasaurid.
* <i>Chromogisaurus</i>	color land reptile, in reference to the Painted Valley of Argentina	Late Triassic	(235-228 MYA)	5 ft (1.5 m)	Turkey	Argentina	Only known from a fragmentary skeleton.
<i>Eoraptor</i>	dawn thief	Late Triassic	(235-228 MYA)	3.3 ft (1 m)	Beaver	Argentina	Known from many skeletons, this is one of our best view of what early dinosaurs looked like. Long thought to be either a very primitive saurischian (as mentioned in the book) or as a primitive theropod more closely related to <i>Tawa</i> and the advanced theropods than to herrerasaurs. A study in early 2011 shows it to be a gaaibasaurid instead!
<i>Gaaibasaurus</i>	Rio Gaaiba [Brazil] reptile	Late Triassic	(235-228 MYA)	6.6 ft (2 m)	Beaver	Brazil	A slender early saurischian. Once thought to be an intermediate between sauropodomorphs and theropods, then as the most primitive true theropod, but now as a primitive sauropodomorph.
* <i>Pampadromaeus</i>	runner of the grasslands	Late Triassic	(235-228 MYA)	5 ft (1.5 m)	Turkey	Brazil	Another very primitive, slender Brazilian early saurischian. Not definitely in Gaaibasauridae, but does seem to be an exceedingly primitive sauropodomorph. Rivals <i>Eoraptor</i> in its role as "most primitive appearing dinosaur".
* <i>Panphagia</i>	all eater (that is to say, "omnivore")	Late Triassic	(235-228 MYA)	5 ft (1.5 m)	Turkey	Argentina	One of the most completely-known early sauropodomorphs. Its head is very similar to that of <i>Eoraptor</i> . It has been interpreted as an omnivore (as indeed all the gaaibasaurids may be).
<i>Saturnalia</i>	Saturnalia [Roman festival]	Late Triassic	(235-228 MYA)	5 ft (1.5 m)	Turkey	Brazil	One of the most primitive sauropodomorphs. It was discovered during the festival of Carnival (celebrated in Brazil), so the describers decided to name it after a similar ancient festival.
* Not yet officially named		Late Triassic	(210-202 MYA)	5 ft (1.5 m)	Turkey	India	An as-yet undescribed gaaibasaurid, from the same site as <i>Nambalia</i> and <i>Jaklapallisaurus</i> .
Not yet officially named		Late Triassic	(228-204 MYA)	5 ft (1.5 m)	Turkey	Zimbabwe	An unnamed, and as yet undescribed, relative of <i>Saturnalia</i> .

#### \*\* Other Primitive Sauropodomorphs—Most Primitive Early Long-Necked Plant-Eating Dinosaurs (Chapter 22)

Primitive sauropodomorphs other than gaaibasaurids.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Arcusaurus</i>	rainbow reptile, after "the Rainbow Nation" (the nickname of post-Apartheid South Africa)	Early Jurassic	(201.6-196.5 MYA)	8.25 ft (2.5 m)	Wolf	South Africa	Although it lived among much more advanced sauropodomorphs, <i>Arcusaurus</i> is anatomically very similar to primitive forms such as <i>Thecodontosaurus</i> and <i>Pantyraco</i> .
* <i>Asylosaurus</i>	sanctuary reptile	Late Triassic	(203.6-199.6 MYA)	6.9 ft (2.1 m)	Wolf	England	A very primitive sauropodomorph, once considered a specimen of <i>Thecodontosaurus</i> .
<i>Efraasia</i>	for [German paleontologist] Eberhard Fraas	Late Triassic	(228-204 MYA)	3.3 ft (1 m)	Turkey	Germany	Sometimes considered a species of <i>Sellosaurus</i> , but new studies show that it is a distinct, primitive sauropodomorph.
* <i>Nambalia</i>	after Nambal [Village]	Late Triassic	(210-202 MYA)	?	Wolf?	India	A primitive sauropodomorph from India. Multiple individuals are known, but not enough yet to form a complete skeleton.

* <i>Pantydraco</i>	Panty-y-ffynnon [quarry in Wales] dragon	Late Triassic	(203.6-199.6 MYA)	8.25 ft (2.5 m)	Wolf	Wales	A very primitive sauropodomorph, once considered a specimen of <i>Thecodontosaurus</i> . The best specimen is a juvenile.
<i>Plateosauravus</i>	<i>Plateosaurus</i> ancestor	Late Triassic	(235-228 MYA)	26.2 ft (8 m)	Horse	South Africa	The dinosaur fossils that most books call " <i>Euskelosaurus</i> " actually belong to this genus.
<i>Ruehleia</i>	for [German paleontologist Hugo] Ruehle [von Lilienstern]	Late Triassic	(228-204 MYA)	26.2 ft (8 m)	Horse	Germany	Once considered a species of <i>Plateosaurus</i> .
* <i>Seitaad</i>	sand monster	Early Jurassic	(189.6-183 MYA)	9.2 ft (2.8 m)	Sheep	Utah	Found buried in an ancient sand dune, indicating that it lived (or at least died) in a desert. It shows similarities to both Plateosauridae and Massospondyliidae.
<i>Thecodontosaurus</i>	socket-toothed reptile	Late Triassic	(203.6-199.6 MYA)	6.9 ft (2.1 m)	Wolf	England	A very primitive sauropodomorph. Some specimens once considered to be <i>Thecodontosaurus</i> are now called <i>Asylosaurus</i> and <i>Pantydraco</i> .
* <i>Xixiposaurus</i>	Xixipo [Village] reptile	Early Jurassic	(199.6-183 MYA)	13.1ft (4 m)	Lion	China	Known from fairly complete material. Uncertain if it is closer to Plateosauridae, Riojasauridae, or Massospondyliidae.

#### \*\* Plateosaurids—Most Primitive Core Prosauropods (Chapter 22)

The most primitive of the "core prosauropod" groups. As with other core prosauropods, they were once thought to have been partially quadrupedal, but new studies show that they were strictly bipeds.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Jaklapallisaurus</i>	Jaklapalli [Town] reptile	Late Triassic	(210-202 MYA)	8.2 ft (2.5 m)?	Lion?	India	A small plateosaurid from the same site as <i>Nambalia</i> ; very little is presently known.
<i>Plateosaurus</i>	broad reptile	Late Triassic	(228-204 MYA)	26.2 ft (8 m)	Horse	France; Germany; Greenland; Switzerland	The best-studied prosauropod. Known from dozens of individuals, including complete skulls and skeletons. Several species are known.
<i>Sellosaurus</i>	saddle [vertebra] reptile	Late Triassic	(228-204 MYA)	21.3 ft (6.5 m)	Grizzly bear	Germany	Possibly just a species of <i>Plateosaurus</i> . Its fossils were mixed up with those of an even more primitive prosauropod.
<i>Unaysaurus</i>	black-water reptile	Late Triassic	(228-203.6 MYA)	8.2 ft (2.5 m)	Lion	Brazil	Recently discovered, it appears to be similar to but smaller than <i>Plateosaurus</i> .

#### \*\* Riojasaurids—Largest Core Prosauropods (Chapter 22)

Sauropodomorpha is the group of long-necked plant-eating dinosaurs. The most primitive of these were much smaller than later sauropodomorphs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Eucnemesaurus</i>	good-shinned reptile	Late Triassic	(228-204 MYA)	?	Rhino?	South Africa	A <i>Riojasaurus</i> -like prosauropod. Includes a femur once thought to be from a carnivorous dinosaur and given the name " <i>Aliwalia</i> ."
<i>Riojasaurus</i>	La Rioja Province [Argentina] reptile	Late Triassic	(228-204 MYA)	32.8 ft (10 m)	Elephant	Argentina	Known from more than twenty individuals. Once considered a close relative of <i>Melanorosaurus</i> and sauropods; new research suggests that it is more closely related to <i>Plateosaurus</i> , <i>Massospondylus</i> , and "typical" prosauropods.

#### \*\* Massospondyliids—Long-Necked Core Prosauropods (Chapter 22)

Sauropodomorpha is the group of long-necked plant-eating dinosaurs. The most primitive of these were much smaller than later sauropodomorphs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Adeopapposaurus</i>	far eating reptile, in reference to its very long neck	Early Jurassic	(199.6-175.6 MYA)	6.9 ft (2.1 m)	Wolf	Argentina	Very similar to <i>Massospondylus</i> . Shows good evidence for a small beak in the front of its snout.
<i>Coloradisaurus</i>	Los Colorados Formation [Argentina] reptile	Late Triassic	(228-204 MYA)	13.1ft (4 m)	Lion	Argentina	Known from a good adult skull.
* <i>Glacialisaurus</i>	icy reptile	Early Jurassic	(189.6-183 MYA)	20.3 ft (6.2 m) ?	Horse ?	Antarctica	Very similar to <i>Lufengosaurus</i> . Found in the same quarry as <i>Cryolophosaurus</i> .
* <i>Leyesaurus</i>	Leyes [family who discovered the specimen] reptile	Late Triassic or Early Jurassic	(204-196 MYA)	6.9 ft (2.1 m)?	Wolf?	Argentina	Known from a very good skull and neck, and a few other bones. Closely related to <i>Adeopapposaurus</i> .
<i>Lufengosaurus</i>	Lufeng Basin [China] reptile	Early Jurassic	(199.6-183 MYA)	20.3 ft (6.2 m)	Horse	China	Once thought to be closely related to either <i>Plateosaurus</i> or <i>Yunnanosaurus</i> , but now recognized as a massospondylid. Known from over thirty individuals.
<i>Massospondylus</i>	elongated vertebrae	Early Jurassic	(199.6-183 MYA)	13.1 ft (4 m)	Lion	Lesotho; South Africa; Zimbabwe	The best-studied prosauropod after <i>Plateosaurus</i> . Known from many good skulls and skeletons, and now from nests with embryos.
* <i>Pradhania</i>	for [Indian fossil collector Dhuiya] Pradhan	Early Jurassic	(196.5-189.6 MYA)	13.1 ft (4 m)	Lion	India	Known only from fragmentary remains. Originally thought to be a very primitive sauropodomorph, but new study shows it to be a massospondylid.

No official genus name; formerly " <i>Gyposaurus</i> " <i>sinensis</i>	Early Jurassic	(199.6-183 MYA)	26.2 ft (8 m)	Horse	China	Several skeletons from China are known. It was originally considered a Chinese species of " <i>Gyposaurus</i> " (an invalid name for the dinosaur now called <i>Massospondylus</i> ).
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**\*\* Near-Sauropods—Advanced Early Long-Necked Plant-Eating Dinosaurs (Chapter 22)**

The prosauropods most closely related to sauropods. Some of these could function as either bipeds or quadrupeds; others were quadrupeds only (like the true sauropods).

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Aardonyx</i>	earth claw	Early Jurassic	(201.6-196.5 MYA)	21.5 ft (6.5 m)	Horse	South Africa	Known from very complete material. Similar to the more advanced sauropods in lacking a cheek (and thus able to make big gulps of food: the "bulk-browsing" method). The most advanced sauropodomorph that was still limited to a bipedal mode of life.
<i>Ammosaurus</i>	sandstone reptile	Early Jurassic	(189.6-175.6 MYA)	14.1 ft (4.3 m)	Lion	Connecticut	One of the first prosauropods found in North America (along with <i>Anchisaurus</i> ). Some consider this to be the same genus as <i>Anchisaurus</i> .
<i>Anchisaurus</i>	near reptile	Early Jurassic	(189.6-175.6 MYA)	7.9 ft (2.4m)	Wolf	Connecticut, Massachusetts	Possibly the same as <i>Ammosaurus</i> .
* <i>Aristosaurus</i>	superior reptile	Early Jurassic	(196.5-189.6 MYA)	?	?	South Africa	Known only from the skeleton of a juvenile.
* <i>Chuxiongosaurus</i>	Chuxiong [City] reptile	Early Jurassic	(199.6-183 MYA)	?	Lion?	China	Known from a nearly complete skull. More distantly related to sauropods than is <i>Anchisaurus</i> .
<i>Eshanosaurus</i>	Eshan County [China] reptile	Early Jurassic	(201.6-196.5 MYA)	?	?	China	Some paleontologists consider this fossil—known only from a lower jaw—to be from an incredibly early therizinosauroid.
<i>Euskelosaurus</i>	good-legged reptile	Late Triassic	(220-210 MYA)	26.2 ft (8 m)	Horse	South Africa; Zimbabwe	Actual <i>Euskelosaurus</i> fossils are rare and not well described. Better fossils once called " <i>Euskelosaurus</i> " are now regarded as coming from distinct types of dinosaurs: the prosauropod <i>Plateosauravus</i> and the early sauropod <i>Antetonitrus</i> .
<i>Fulengia</i>	anagram for Lufeng [region in Yunnan Province, China, where discovered]	Early Jurassic	(199.6-183 MYA)	3.3 ft (1 m)	Turkey	China	May simply be a baby <i>Lufengosaurus</i> .
* <i>Ignavusaurus</i>	coward reptile [after the place it was found, the name of which translates as "place of the father of the coward"]	Early Jurassic	(201.6-196.5 MYA)	4.9 ft (1.5 m)	Wolf	Lesotho	Very primitive for an Early Jurassic genus. The only known specimen seems to be only a year old or less, indicating it was a fast-growing animal. Some consider it nothing more than a juvenile <i>Massospondylus</i> , but other analyses place it as the closest relative of <i>Sarhsaurus</i> .
<i>Jiangshanosaurus</i>	Jiangshan [China] reptile	Early Jurassic	(199.6-183MYA)	32.8 ft (10 m)	Rhino	China	Don't confuse it with <i>Jiangshanosaurus</i> , a Cretaceous titanosaur!
* <i>Lamplughsauro</i>	for [Pamela] Lamplugh [Robinson, founder of the Indian Statistical Institute, which discovered the fossils]	Early Jurassic	(196.5-189.6 MYA)	32.8 ft (10 m)	Rhino	India	Known from the remains of at least four individuals, it will be one of the most completely known prosauropods when the study of these fossils are completed.
* <i>Leoneriasaurus</i>	Las Leoneras [Formation] reptile	Early Jurassic?	(199.6-183 MYA)?	7.9 ft (2.4m)	Wolf	Argentina	A partial skeleton of a primitive sauropodomorph, with an odd mixture of primitive and advanced features. Its age is uncertain: its is probably from the Early Jurassic, but it might actually be from the Late Triassic.
<i>Melanorosaurus</i>	Black Mountain [South Africa] reptile	Late Triassic to Early Jurassic	(216.5-189.6 MYA)	32.8 ft (10 m)	Rhino	Lesotho; South Africa	Possibly the closest relative to true sauropods.
<i>Mussaurus</i>	mouse reptile	Late Triassic	(228-204 MYA)	8 in (20 cm) long as a baby	Chicken	Argentina	The original specimen was a tiny hatchling; however, larger adult fossils are known.
^ <i>Sarhsaurus</i>	Sarah [Butler, who helped fund dinosaur exhibits at the University of Texas museum] reptile	Early Jurassic	(199.6-183 MYA)	13.1 ft (4 m)	Lion	Arizona	This specimen was once considered to be <i>Massospondylus</i> or <i>Ammosaurus</i> , but now appears to be a new genus. Confusingly, it might either be a very primitive sauropodomorph or very close to the sauropods.
<i>Tawasaurus</i>	Dawa Village [China] reptile	Early Jurassic	(199.6-183 MYA)	3.3 ft (1 m)	Turkey	China	May simply be a baby <i>Lufengosaurus</i> .
<i>Yimenosaurus</i>	Yimen County [China] reptile	Early Jurassic	(189.6-175.6 MYA)	23 ft (7 m)	Horse	China	Its skull is short and deep, more like those of sauropods than those of prosauropods. Known from several skeletons.
<i>Yunnanosaurus</i>	Yunnan Province [China] reptile	Late Triassic to Middle Jurassic	(216.5-167.7 MYA)	23 ft (7 m)	Horse	China	Over twenty skeletons are known. Unlike most prosauropods, it had teeth that were not leaf-shaped but instead more spoon-shaped (as in macronarian sauropods). A newly discovered species is the only prosauropod known to have made it into the Middle Jurassic.
Not yet officially named		Late Triassic	(235-228 MYA)	32.8 ft (10 m)	Elephant	Lesotho	A large African sauropodomorph, not yet described in the scientific literature.
* Not yet officially named		Late Triassic	(228-204 MYA)	23 ft (7 m)?	Horse?	France	A <i>Yunnanosaurus</i> -like genus.

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

Not yet officially named		Early Jurassic	(189.6-175.6 MYA)	6.9 ft (2.1 m)	Wolf	Connecticut	Once considered specimens of <i>Anchisaurus</i> (under the now-invalid name " <i>Yaleosaurus</i> "); these fossils seem to be different from <i>Anchisaurus</i> and <i>Ammosaurus</i> , and so will need a new name.
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### \*\* Primitive Sauropods—Early Giant Long-Necked Plant-Eating Dinosaurs (Chapter 23)

Sauropoda is the group of giant, long-necked, four legged sauropodomorphs. The following genera are sauropods that lack the tooth-to-tooth contact that characterizes the advanced group (the eusauropods).

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Antetonitrus</i>	before the thunder	Late Triassic	(220-210 MYA)	40 ft (12.2 m)	Elephant	South Africa	One of the most primitive known sauropods. Its bones were originally cataloged as belonging to the prosauropod <i>Euskelosaurus</i> .
<i>Archaeodontosaurus</i>	ancient-tooth reptile	Middle Jurassic	(167.7-164.7 MYA)	?	?	Madagascar	Named because its teeth resemble those of more primitive prosauropods rather than typical sauropods.
<i>Blikanasaurus</i>	Mount Blikana [South Africa] reptile	Late Triassic	(220-210 MYA)	16.4 ft (5 m)	Lion	South Africa	For a long time, thought to be a giant prosauropod, but this form (known from a partial hind limb) seems to be one of the oldest sauropods.
<i>Camelotia</i>	for Camelot [King Arthur's legendary castle]	Late Triassic	(203.6-199.6 MYA)	29.5 ft (9 m)	Horse	England	Possibly a giant prosauropod rather than a very early sauropod.
<i>Chinshakiangosaurus</i>	Chinshakiang [China] reptile	Early Jurassic	(time very uncertain)	29.5 ft (9 m)	Rhino	China	Possibly a large prosauropod rather than a true sauropod.
<i>Gongxianosaurus</i>	Gongxian County [China] reptile	Early Jurassic	(199.6-175.6 MYA)	45.9 ft (14 m)	Two elephants	China	One of the most primitive known sauropods.
<i>Isanosaurus</i>	Isan [Thailand] reptile	Late Triassic	(210-199.6 MYA)	55.8 ft (17 m)	Two elephants	Thailand	A very primitive sauropod.
<i>Kotasaurus</i>	Kota Formation reptile	Early Jurassic	(183-175.6 MYA)	29.5 ft (9 m)	Rhino	India	Known from a nearly complete skeleton, which unfortunately has no skull.
<i>Lessemsaurus</i>	[American dinosaur writer Donald] Lessem's reptile	Late Triassic	(228-204 MYA)	32.8 ft (10 m)	Rhino	Argentina	Once considered a giant prosauropod, but more likely a close relative of <i>Antetonitrus</i> .
<i>Ohmdenosaurus</i>	Ohmden [Germany] reptile	Early Jurassic	(183-175.6 MYA)	13.1 ft (4 m)?	Horse?	Germany	First mistakenly thought to be a plesiosaur!
<i>Protognathosaurus</i>	first-jaw reptile	Middle Jurassic	(167.7-161.2 MYA)	?	?	China	Only a jaw is known.
* <i>Spinophorosaurus</i>	spine-bearing reptile	Middle Jurassic?	(175.6-161.2 MYA)	42.9 ft (13 m)	Two elephants	Niger	Probably the most completely-known sauropod from the Middle Jurassic: two nearly-complete skeletons are known. Had a stegosaur-like thagomizer on its tail (rather than the ankylosaurid-like tail club of <i>Shunosaurus</i> ). Current studies place it as the closest relative to Eusauropoda, but I wouldn't be surprised in future studies place it within that group (and even as a close relative of <i>Shunosaurus</i> ).
<i>Zizhongosaurus</i>	Zizhong County [China] reptile	Early Jurassic	(183-175.6 MYA)	29.5 ft (9 m)	Rhino	China	An early Chinese sauropod. Not to be confused with <i>Zigongosaurus</i> .

### \*\* Vulcanodontids—Primitive Giant Long-Necked Plant-Eating Dinosaurs (Chapter 23)

Among the early sauropods one group that has been recognized is Vulcanodontidae. These primitive forms are more closely related to the eusauropods than the other primitive sauropods. Like the eusauropods, vulcanodontids had tooth-to-tooth contact and stood with their hands forming a vertical pillar (rather than spreading out their palms, like the hands of near-sauropods and primitive sauropods). A brand new (summer 2008) study names the group of Vulcanodontidae plus Eusauropoda the Gravisauria ("heavy reptiles").

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Tazoudasaurus</i>	Tazouda [Morocco] reptile	Early Jurassic	(183-175.6 MYA)	29.5 ft (9 m)	Elephant	Morocco	Both an adult and a juvenile are known; very similar to <i>Vulcanodon</i> of Zimbabwe. The adult is one of the most complete fossils of an early sauropod.
<i>Vulcanodon</i>	volcano tooth	Early Jurassic	(201.6-196.5 MYA)	21.3 ft (6.5 m)	Rhino	Zimbabwe	One of the oldest sauropods. Originally, some theropod teeth were thought to come from this plant-eater!

### \*\* Primitive Eusauropods—Early Baby-Faced Giant Long-Necked Plant-Eating Dinosaurs (Chapter 23)

The Eusauropoda ("true sauropods") had relatively short rounded ("baby") faces compared to earlier sauropodomorphs, and their hind feet were shorter and squatter than those of other dinosaurs (including more primitive sauropods). Nearly all eusauropods are as big or bigger than an elephant. The genera is the following list are eusauropods but do not seem to belong to any of the more advanced groups: cetiosaurids, turiasaurs, or neosauropods.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Abrosaurus</i>	delicate [skull] reptile	Middle Jurassic	(167.7-161.2 MYA)	?	?	China	Very similar to <i>Jobaria</i> .
<i>Algoasaurus</i>	Algoa Bay [South Africa] reptile	Late Jurassic to Early Cretaceous	(148-138 MYA)	29.5 ft (9 m)?	Rhino	South Africa	Known only from very poorly preserved fossils. Significant because they were among the first sauropod fossils found in Africa.
<i>Amygdalodon</i>	almond tooth	Middle Jurassic	(171.6-167.7 MYA)	39.4 ft (12 m)?	Elephant?	Argentina	Three different individuals, although none complete, are known.
<i>Asiatosaurus</i>	Asian reptile	Early Cretaceous	(time very uncertain)	?	?	China; Mongolia	Possibly the same dinosaur as <i>Euhelopos</i> .

<i>Atlasaurus</i>	Atlas Mountains reptile	Middle Jurassic	(167.7-164.7 MYA)	59 ft (18 m)	Two elephants	Morocco	Known from a nearly complete skeleton; once thought to possibly be an early brachiosaurid.
<i>Chebsaurus</i>	teenager dinosaur	Middle Jurassic	(time very uncertain)	29.5 ft (9 m)	Rhino	Algeria	Named because the specimen was not fully grown. A fair amount of the skeleton is known.
<i>Chuanjiesaurus</i>	Chuanjie Village [China] reptile	Middle Jurassic	(171.6-164.7 MYA)	82 ft (25 m)	Four elephants	China	One of the largest early sauropods.
<i>Ferganasaurus</i>	Fergana Valley [Kyrgyzstan] reptile	Middle Jurassic	(164.7-161.2 MYA)	45.9 ft (14 m)	Two elephants	Kyrgyzstan	Similar to <i>Jobaria</i> .
<i>Jobaria</i>	after Jobar [mythical Nigerian monster]	Middle Jurassic	(167.7-164.7MYA)	78.7 ft (24 m)	Four elephants	Niger	Known from an excellent skeleton. Once considered a primitive macronarian, but recent studies suggest it is a far more primitive dinosaur. The rocks it came from were originally thought to have been formed in the Early Cretaceous, but are now known to be much older.
* <i>Liubangosaurus</i>	[First emperor of Han dynasty] Liu Bang's reptile	Early Cretaceous	(time very uncertain)	?	?	China	Very little has been described of this dinosaur so far (only five tail bones).
<i>Pukyongosaurus</i>	Pukyong National University [South Korea] reptile	Early Cretaceous	(136.4-120 MYA)	?	?	South Korea	A tall-spined form, not yet fully described.
<i>Qinlingosaurus</i>	Qin Ling Mountains [China] reptile	Late Cretaceous	(66.8-65.5 MYA)	?	?	China	One of the last sauropods of Asia.
<i>Rhoetosaurus</i>	Rhoetus [mythological Greek giant] reptile	Middle Jurassic	(171.6-167.7 MYA)	39.4 ft (12 m)	Two elephants	Australia	Known only from the rear half of a skeleton.
<i>Shunosaurus</i>	Sichuan [China] reptile	Middle Jurassic	(167.7-161.2MYA)	28.5 ft (8.7 m)	Elephant	China	The best-studied and most completely known early sauropod, and one of the few with a tail club.
* <i>Xianshanosaurus</i>	Xian Mountans [China] reptile	Late Cretaceous	(99.6-95.8 MYA)	?	?	China	Very little has been described of this dinosaur so far.
Not yet officially named		Middle to Late Jurassic	(time very uncertain)	?	?	China	Not yet fully described; said to have a <i>Camarasaurus</i> -like skull.
Not yet officially named		Early Jurassic	(196.5-189.6 MYA)	36 ft (11 m)	Elephant	China	Not yet fully described, but known from relatively complete material. One of the most primitive eusauropods.

#### \*\* Primitive Cetiosaurids—Primitive Whale Dinosaurs (Chapter 23)

Recent studies show that the following genera—plus the mamenchisaurines—together form a single clade, whose name would be "Cetiosauridae". It will be interesting to see if future analyses support this new idea. The name "Cetiosauridae" means "whale reptiles"; the first discovered one was thought to be a giant seagoing crocodile the size of a whale.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Barapasaurus</i>	big-leg reptile	Early Jurassic	(199.6-175.6 MYA)	60 ft (18.3 m)	Two elephants	India	The most completely known Early Jurassic sauropod, but, sadly, no one has yet found the skull.
<i>Cetiosaurus</i>	whale reptile	Middle Jurassic	(171.6-164.7 MYA)	45.9 ft (14 m)	Two elephants	England	The first named sauropod, once thought to be a giant seagoing crocodile.
<i>Patagosaurus</i>	Patagonia [Argentina] reptile	Middle Jurassic	(164.7-161.2 MYA)	49.2 ft (15 m)	Two elephants	Argentina	Over a dozen specimens of different ages (from juveniles to adults) are known.
<i>Tehuelchesaurus</i>	Tehuelche [Native Argentine people] reptile	Late Jurassic	(155.7-145.5 MYA)	39.4 ft (12 m)	Two elephants	Argentina	An <i>Omeisaurus</i> -like sauropod, found with hexagonal (six-sided) scale impressions.

#### \*\* Mamenchisaurines—Chinese Ultralong-Necked Whale Dinosaurs (Chapter 23)

In at least some analyses, these sauropods were found to be a subgroup within Cetiosauridae. Some paleontologists consider *Euhelopus* to be part of this group (in which case it would properly be called "Euhelopinae"); however, other analysis show *Euhelopus* is a closer relative of brachiosaurids and titanosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Datousaurus</i>	chieftain reptile	Middle Jurassic	(167.7-161.2 MYA)	45.9 ft (14 m)	Two elephants	China	Possibly a primitive diplodocoid.
* <i>Eomamenchisaurus</i>	dawn <i>Mamenchisaurus</i>	Middle Jurassic	(time very uncertain)	?	?	China	An early mamenchisaurine: possibly the same species already described as " <i>Yuanmousaurus</i> " (found at the same location).
<i>Hudiesaurus</i>	butterfly [vertebrae] reptile	Late Jurassic	(150.8-145.5MYA)	65.6 ft (20 m)?	Two elephants	China	Known from a complete forelimb, a vertebra, and four teeth.
<i>Mamenchisaurus</i>	Mamench Ferry [China] reptile	Late Jurassic	(161.2-155.7 MYA)	85.3 ft (26 m)	Three elephants	China	Possessed one of the longest necks known among dinosaurs.
<i>Omeisaurus</i>	Mount Emei [China] reptile	Middle to Late Jurassic	(167.7-155.7 MYA)	49.2 ft (15 m)	Two elephants	China	A long-necked sauropod, possibly a close relative of <i>Mamenchisaurus</i> .
<i>Tianshanosaurus</i>	Heavenly Mountains [China] reptile	Late Jurassic	(161.2-155.7 MYA)	39.4 ft (12 m)	Elephant	China	A <i>Mamenchisaurus</i> -like dinosaur.
* <i>Tonganosaurus</i>	Tong'an Town [China] reptile	Early Jurassic	(199.6-175.6 MYA)	?	?	China	Yet another possible mamenchisaurine from China.
<i>Yuanmousaurus</i>	Yuanmou [China] reptile	Middle Jurassic	(time very uncertain)	49.2-65.6 ft (15-20 m)	?	China	A large early sauropod, with traits of <i>Omeisaurus</i> , <i>Euhelopus</i> , and <i>Patagosaurus</i> .
<i>Zigongosaurus</i>	Zigong City [China] reptile	Middle Jurassic	(167.7-161.2 MYA)	?	?	China	Shares some traits with <i>Omeisaurus</i> and <i>Mamenchisaurus</i> .

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

* Not yet officially named	Middle Jurassic	(167.7-161.2 MYA)	65.6 ft (20 m)?	Two elephants	China	One or more species once considered types of <i>Omeisaurus</i> but which may be one or more new genera.
* Not yet officially named	Late Jurassic	(161.2-155.7 MYA)	65.6 ft (20 m)?	Two elephants	China	One or more species once considered types of <i>Mamenchisaurus</i> but which may be one or more new genera.

**\*\* Turiasaurs—European Giant Long-Necked Plant-Eating Dinosaurs (Chapter 23)**

First recognized only in December 2006, a group of European sauropods from the Late Jurassic and Early Cretaceous.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Cardiodon</i>	heart tooth	Middle Jurassic	(167.7-164.7 MYA)	?	?	England	Known from a single tooth, sometimes considered as coming from <i>Cetiosaurus</i> . A new study of <i>Cetiosaurus</i> showed it was distinct from <i>Cardiodon</i> .
<i>Galveosaurus</i>	Galve [Spain] reptile	Late Jurassic to Early Cretaceous	(150.8-140.2 MYA)	45.9 ft (14 m)	Two elephants	Spain	A <i>Cetiosaurus</i> -like dinosaur. Two teams of paleontologists wound up describing these fossils with slightly different names at just about the same time, so there is a debate whether this should be called " <i>Galveosaurus</i> " or " <i>Galvesaurus</i> "
<i>Losillasaurus</i>	Losilla [Spain] reptile	Late Jurassic to Early Cretaceous	(150.8-140.2 MYA)	?	?	Spain	Once thought to be either a primitive diplodocoid or a primitive macronarian instead.
<i>Oplosaurus</i>	armored reptile	Early Cretaceous	(130-125 MYA)	?	?	England	Known from a tooth, originally thought to be from an ankylosaur.
* <i>Turiasaurus</i>	Turia [ancient name for place in Spain where it was discovered] reptile	Late Jurassic to Early Cretaceous	(150.8-140.2 MYA)	99 ft (30 m)	Four elephants	Spain	The largest dinosaur known from Europe.

**\*\* Primitive Neosauropods—Early Advanced Giant Long-Necked Plant-Eating Dinosaurs (Chapters 23-5)**

The Neosauropoda ("new sauropods") mostly fall into either the diplodocoids or the macronarians. These genera seem to be neosauropods, but cannot yet be placed in one of the two major groups.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Cetiosauriscus</i>	like <i>Cetiosaurus</i>	Middle Jurassic	(164.7-161.2 MYA)	49.2 ft (15 m)	Two elephants	England	Some paleontologists consider it to be a close relative of long-necked <i>Omeisaurus</i> and <i>Mamenchisaurus</i> ; traditionally thought to be a primitive diplodocoid.
<i>Xenoposiedon</i>	strange Poseidon [Greek god of earthquakes]	Early Cretaceous	(145.5-136.4 MYA)	?	?	England	Known only from a very peculiar vertebra.
No official genus name; formerly " <i>Ornithopsis</i> " <i>greppini</i>		Late Jurassic	(150.8-145.5 MYA)	49.2 ft (15 m)?	Two elephants?	Switzerland	Once considered a species of <i>Cetiosauriscus</i> . One of the bones preserves fossilized cartilage!

**Primitive Diplodocoids—Early Whip-Tailed Dinosaurs (Chapter 24)**

The following dinosaurs are diplodocoids, but they are not members of the gigantic Diplodocidae, the tall-spined Dicraeosauridae, or the wide-snouted Rebbachisauridae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Amphicoelias</i>	biconcave [vertebra]	Late Jurassic	(155.7-150.8 MYA)	147.6 ft (45 m)?	Eighteen elephants?	Colorado, Montana	A primitive diplodocoid, and (if measurements from a specimen now lost are correct) one of the largest dinosaurs known.
<i>Dyslocosaurus</i>	hard-to-place reptile	Late Jurassic	(155.7-150.8 MYA)	59 ft (18 m)?	Elephant	Wyoming	Originally recorded as coming from the end of the Late Cretaceous.
<i>Dystrophaeus</i>	coarse joint	Late Jurassic	(155.7-150.8 MYA)	?	Elephant	Utah	The first sauropod named from North America, but very poorly known.
<i>Haplocanthosaurus</i>	simple-spined reptile	Late Jurassic	(155.7-150.8 MYA)	70.5 ft (21.5 m)	Three elephants	Colorado, Wyoming	Has been considered a <i>Cetiosaurus</i> relative or a primitive macronarian, but nearly all recent studies find it to be a primitive diplodocoid.
No official genus name; formerly " <i>Cetiosaurus</i> " <i>glymptonensis</i>		Middle Jurassic	(167.7-164.7 MYA)	?	?	England	Possibly the oldest diplodocoid.

**\*\* Apatosaurines—Giant Whip-Tailed Dinosaurs (Chapter 24)**

Diplodocidae include the longest of all dinosaurs. There are two major branches: Apatosaurinae and Diplodocinae. Both groups produced tremendously large species.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Apatosaurus</i>	deceptive [chevron] reptile	Late Jurassic	(155.7-150.8 MYA)	85.3 ft (26 m)	Four elephants	Colorado, Wyoming, Utah, Oklahoma	Includes the species formerly called " <i>Brontosaurus</i> ". The most heavily built diplodocid. Some isolated vertebrae hint that it may be even bigger than stated here: in fact, it might regain its place as one of the largest dinosaurs!
<i>Eobrontosaurus</i>	dawn thunder reptile	Late Jurassic	(155.7-150.8 MYA)	68.9 ft (21 m)	Three elephants	Wyoming	Once considered a species of <i>Apatosaurus</i> (and also <i>Camarasaurus</i> ).

**\*\* Diplodocines—Giant Whip-Tailed Dinosaurs (Chapter 24)**

Diplodocids include the longest of all dinosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
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<i>Barosaurus</i>	heavy reptile	Late Jurassic	(155.7-150.8MYA)	85.3 ft (26 m)	Two elephants	Utah, South Dakota	The longest-necked Jurassic dinosaur of North America.
<i>Dinheirosaurus</i>	Porto Dinheiro [Portugal] reptile	Late Jurassic	(153-148 MYA)	?	Elephant	Portugal	First confirmed diplodocid from Europe.
<i>Diplodocus</i>	double beam [chevron]	Late Jurassic	(155.7-150.8 MYA)	99 ft (30 m)	Four elephants	Colorado, Montana, New Mexico, Wyoming, Utah	One of the best-known, best-studied dinosaurs. The dinosaur previously called " <i>Seismosaurus</i> " is just a very large, very old grown-up <i>Diplodocus</i> ; thus <i>Diplodocus</i> is one of the longest of all dinosaurs. Typical <i>Diplodocus</i> skeletons are only about two elephants heavy.
<i>Supersaurus</i>	super reptile	Late Jurassic	(155.7-150.8 MYA)	112 ft (34 m)	Four elephants	Colorado	Once considered just a very old individual <i>Barosaurus</i> or <i>Diplodocus</i> . Once thought to be more closely related to <i>Apatosaurus</i> , but newer studies place it closer to <i>Barosaurus</i> , <i>Diplodocus</i> , and (most especially) Portuguese <i>Dinheirosaurus</i> .
<i>Tornieria</i>	for [German paleontologist Gustav] Tornier	Late Jurassic	(155.7-150.8 MYA)	85.3 ft (26 m)?	Two elephants	Tanzania	Considered by some to be an African species of <i>Barosaurus</i> .

**Dicraeosaurids—Tall-Spined Whip-Tailed Dinosaurs (Chapter 24)**

These dinosaurs had extremely short necks for sauropods and very tall spines on their backs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Amargasaurus</i>	La Amarga Creek [Argentina] reptile	Early Cretaceous	(130-120MYA)	39.4 ft (12 m)	Rhino	Argentina	Has very tall neural spines on the neck, back, and hips.
<i>Brachytrachelopan</i>	short-necked shepherd god	Late Jurassic	(155.7-150.8 MYA)	32.8 ft (10 m)	Rhino	Argentina	One of the smallest, and shortest-necked, sauropods.
<i>Dicraeosaurus</i>	bifurcated [neural spine] reptile	Late Jurassic	(155.7-150.8 MYA)	45.9 ft (14 m)	Elephant	Tanzania	The most completely known dicraeosaurid.
<i>Suuwassea</i>	first thunder heard in spring	Late Jurassic	(155.7-150.8 MYA)	68.9 ft (21 m)	Four elephants	Montana	Has some features that are more like those of diplodocids, but now appears to be a North American dicraeosaurid.

**Rebbachisaurids—Lawnmower Dinosaurs (Chapter 24)**

The recently discovered dinosaurs in Rebbachisauridae were the most specialized diplodocoids.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Amazonsaurus</i>	Amazon River reptile	Early Cretaceous	(118-110 MYA)	?	?	Brazil	Once thought to be a dicraeosaurid or more primitive diplodocoid, now seems possibly to be a rebbachisaurid.
<i>Cathartesaura</i>	vulture roost [locality where discovered] reptile	Late Cretaceous	(99.6-93.5 MYA)	?	?	Argentina	Only a few parts have been described at present.
^ <i>Demandasaurus</i>	[Sierra de la] Demanda [range] reptile	Early Cretaceous	(130-120 MYA)	49.2 ft (15 m)	Elephant	Spain	What is known is very similar to, but less specialized than, <i>Nigersaurus</i> .
<i>Histriasaurus</i>	Istria [Croatia] reptile	Early Cretaceous	(136.4-125 MYA)	?	?	Croatia	The first dinosaur named from the little central European nation of Croatia.
<i>Limaysaurus</i>	Rio Limay Group reptile	Late Cretaceous	(99.6-97 MYA)	?	?	Argentina	Known from several individuals, including one 80 percent complete.
<i>Nigersaurus</i>	Niger reptile	Early Cretaceous	(118-110 MYA)	49.2 ft (15 m)	Elephant	Niger	Several specimens are known, including the best skull material of a rebbachisaurid. With 600 teeth, it had the most teeth known in any saurischian.
* <i>Nopcsaspondylus</i>	[Romanian paleontologist Franz] Nopcsa's vertebra	Late Cretaceous	(89.3-85.8 MYA)	?	Elephant	Argentina	One of the last rebbachisaurids (and thus one of the last diplodocoids).
<i>Rayososaurus</i>	Rayoso Formation reptile	Early Cretaceous	(117-100 MYA)	?	?	Argentina	A relatively primitive rebbachisaurid.
<i>Rebbachisaurus</i>	Ait Rebbach [Berber tribe of Morocco] reptile	Early Cretaceous	(112-99.6 MYA)	65.6 ft (20 m)	Two elephants	Morocco	The largest known rebbachisaurid, with tall neural spines (1.5 m tall).
<i>Zapalasaurus</i>	Zapala City [Argentina] reptile	Early Cretaceous	(130-120 MYA)	?	?	Argentina	Just named in 2006, and known from vertebrae. Originally considered a primitive diplodocoid.
* Not yet officially named		Late Cretaceous	(95-85 MYA)	?	Two elephants?	Argentina	A few isolated bones are known, but enough to show that a rebbachisaurid is present.
* Not yet officially named		Early Cretaceous	(136.4-125 MYA)	?	?	England	A close relative of <i>Nigersaurus</i> .

**Primitive Macronarians—Early Big-Nosed Dinosaurs (Chapter 25)**

Macronaria is a group of sauropods with extremely large nasal regions. These genera are macronarians but not members of the advanced groups Brachiosauridae or Titanosauria.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Aepisaurus</i>	high reptile	Early Cretaceous	(125-112 MYA)	49.2 ft (15 m)	Two elephants	France	Possibly a more primitive form of eusauropod.
* <i>Angolatitan</i>	Angola titan	Late Cretaceous	(93.5-89.3 MYA)	?	Two elephants?	Angola	The first sauropod--and in fact first non-bird dinosaur--found in the African nation of Angola.
<i>Aragosaurus</i>	Aragon [Spain] reptile	Early Cretaceous	(130-125 MYA)	59 ft (18 m)	Two elephants	Spain	A <i>Camarasaurus</i> -like species.

<i>Astrodon</i>	star tooth	Early Cretaceous	(118-110MYA)	49.2 ft (15 m)	Three elephants	Maryland	Known from teeth, the skeleton of a juvenile, and some bones of a large adult. Includes fossils originally called " <i>Pleurocoelus</i> ".
* <i>Baotianmansaurus</i>	Baotianman [Nature Preserve] reptile	Late Cretaceous	(time very uncertain)	?	?	China	Little is known of the skeleton, but it appears to be a medium-sized sauropod.
<i>Bellusaurus</i>	fine reptile	Late Jurassic	(161.2-155.7 MYA)	16.4 ft (5 m)	Horse	China	Known from parts of at least seventeen juvenile sauropods.
<i>Bothriospondylus</i>	furrowed vertebrae	Late Jurassic	(161.2-150.8 MYA)	65.9 ft (20.1 m)?	Three elephants	England; France	Known from various bones and teeth. A good skeleton from France has been discovered, but has not yet been fully studied. Often considered a brachiosaurid.
* <i>Brontomerus</i>	thunder thighs	Early Cretaceous	(115-110 MYA)	?	Elephant	Utah	Despite its name, the femur has not been found. However, the shape of the ilium shows that it had very powerful thigh muscles.
<i>Camarasaurus</i>	chambered [vertebrae] reptile	Late Jurassic	(155.7-150.8 MYA)	59 ft (18 m)	Two elephants	Colorado, Wyoming, Utah, Montana, New Mexico	The most common dinosaur of the Late Jurassic of North America.
<i>Cedarosaurus</i>	Cedar Mountain Formation reptile	Early Cretaceous	(130-125 MYA)	?	?	Utah	Probably a close relative of <i>Astrodon</i> .
<i>Chondrosteosaurus</i>	cartilage-boned reptile	Early Cretaceous	(130-125 MYA)	59 ft (18 m)?	Two elephants?	England	Known only from vertebrae.
<i>Daanosaurus</i>	Da'an [China] reptile	Late Jurassic	(time very uncertain)	?	?	China	Known from the remains of a juvenile dinosaur.
* <i>Dashanpusaurus</i>	Dashanpu [township in China] reptile	Middle Jurassic	(167.7-161.2MYA)	59 ft (18 m)?	Two elephants?	China	Apparently a relatively complete skeleton, but not yet fully described.
<i>Dinodocus</i>	terrible beam	Early Cretaceous	(125-99.6 MYA)	?	?	England	Known only from teeth.
<i>Erketu</i>	Erketu [Mongolian creator-god]	Later Early Cretaceous	(time very uncertain)	?	?	Mongolia	A long-necked sauropod, possibly a relative of <i>Euhelopus</i> .
<i>Euhelopus</i>	true marsh foot	Late Jurassic	(155.7-148 MYA)	39.4 ft (12 m)	Elephant	China	A very long-necked sauropod thought by some to be closely related to <i>Mamenchisaurus</i> or <i>Omeisaurus</i> and by others to the titanosaurs.
<i>Europasaurus</i>	Europe reptile	Late Jurassic	(155.7-150.8 MYA)	20.3 ft (6.2 m)	Horse	Germany	One of the smallest sauropods. Lived on an island in what is now Germany.
* <i>Fukuititan</i>	Fukui Prefecture [Japan] giant	Early Cretaceous	(130-125 MYA)	?	Two elephants?	Japan	Incompletely known, but appears to be close to <i>Euhelopus</i> , <i>Brachiosauridae</i> , and <i>Titanosauria</i> .
* <i>Fusuisaurus</i>	Fusui County [China] reptile	Early Cretaceous	(118-110MYA)	?	?	China	A newly discovered Chinese titanosaur-relative.
* <i>Huanghetitan</i>	Yellow River [China] titan	Late Cretaceous	(time very uncertain)	?	Three elephants?	China	Two species have been named, but only from limited skeletal material. Had a very deep chest.
<i>Jainosaurus</i>	[Indian paleontologist Sohan Lal] Jain's reptile	Late Cretaceous	(70.6-65.5 MYA)	70.5 ft (21.5 m)	Three elephants?	India	A giant sauropod from the end of the Age of Dinosaurs in India, once thought to be a species of <i>Antarctosaurus</i> .
<i>Lourinhasaurus</i>	Lourinha [Portugal] reptile	Late Jurassic	(153-148 MYA)	55.8 ft (17 m)	Two elephants	Portugal	First thought to be a species of <i>Apatosaurus</i> , then <i>Camarasaurus</i> .
<i>Marmarospondylus</i>	marble vertebrae	Middle Jurassic	(171.6-164.7 MYA)	?	?	England	Often included in the (younger) genus <i>Bothriospondylus</i> .
<i>Klamelisaurus</i>	Klameli [China] reptile	Late Jurassic	(161.2-155.7 MYA)	55.8 ft (17 m)	Two elephants	China	May be an adult <i>Bellusaurus</i> .
<i>Ornithopsis</i>	bird-looking [vertebrae]	Early Cretaceous	(130-125 MYA)	?	?	England	Known only from two back vertebrae. Once thought to come from a gigantic flightless pterodactyl (before sauropods were discovered to be dinosaurs)!
* <i>Qiaowanlong</i>	bridge over the bend in the stream dragon	Early Cretaceous	(125-99.6 MYA)	39.4 ft (12 m)	Elephant	China	Originally described as the first brachiosaurid of Asia, but more recent studies place it closer to <i>Erketu</i> and <i>Euhelopus</i> .
* <i>Tastavinsaurus</i>	wine taster reptile [so called because it was found in a wine-growing region near Rio Tastavins, the "Wine-Taster River"]	Early Cretaceous	(125-112 MYA)	55.8 ft (17 m)	Two elephants	Spain	Seems to be intermediate between <i>Camarasaurus</i> and <i>Brachiosauridae</i> in shape, where known. A close relative of <i>Veneosaurus</i> .
<i>Tendaguria</i>	from Tendaguru Hill [Tanzania]	Late Jurassic	(155.7-150.8 MYA)	?	Two elephants	Tanzania	A heavily built dinosaur known only from vertebrae. May be the same dinosaur as the titanosaur <i>Janenschia</i> .
<i>Veneosaurus</i>	Poison Strip Member [area of Cedar Mountain Formation] reptile	Early Cretaceous	(118-110 MYA)	?	?	Utah	Known from both juveniles and adults.
<i>Volkheimeria</i>	for [Argentine paleontologist Wolfgang] Volkheimer	Middle Jurassic	(164.7-161.2 MYA)	29.5 ft (9 m)	Rhino	Argentina	Possibly a more primitive form of eusauropod.
No official genus name; formerly " <i>Ornithopsis</i> " <i>leedsii</i>		Middle Jurassic	(164.7-161.2 MYA)	?	?	England	Known from vertebrae and fragments of rib and hip bones.
Not yet officially named		Late Jurassic	(155.7-150.8 MYA)	?	?	France	Known from fragmentary remains since 1885. May be similar to <i>Camarasaurus</i> .

No official genus name; formerly " <i>Ornithopsis</i> " <i>eucamerotus</i>	Early Cretaceous	(130-125 MYA)	?	?	England	Known only from fragmentary material
Not yet officially named	Early Cretaceous	(time very uncertain)	?	?	China	A very large sauropod.

**Brachiosaurids—Long-Armed Big-Nosed Dinosaurs (Chapter 25)**

Macronarians with very long necks and long arms, Brachiosauridae includes some of the largest dinosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Abydosaurus</i>	Abydos [City in ancient Egypt in which the severed head of the god Osiris was buried] reptile	Early Cretaceous	(112-99.6 MYA)	60 ft (18.3 m)	Two elephants	Utah	While most sauropods are known from bodies but only fragments of skulls, <i>Abydosaurus</i> is known from four excellent skulls but only fragments of the body. Despite living tens of millions of years after <i>Giraffatitan</i> and <i>Brachiosaurus</i> , its skull is very similar to these dinosaurs.
* <i>Australodocus</i>	southern beam	Late Jurassic	(155.7-150.8 MYA)	68.9 ft (21 m)?	Two elephants?	Tanzania	From the same location as <i>Tornieria</i> , but a shorter-necked form. Originally thought to be a diplodocoid.
<i>Brachiosaurus</i>	arm reptile	Late Jurassic	(155.7-150.8 MYA)	85.3 ft (26 m)	Six elephants	Colorado, Utah; Tanzania	For many decades, this was the largest known dinosaur.
^ <i>Duriantitan</i>	giant of Dorset	Late Jurassic	(155.7-150.8 MYA)	82 ft (25 m)?	Four elephants?	England	Known from a large (1.5 m), slender humerus. Once considered a species of <i>Cetiosaurus</i> ( <i>Cetiosaurus humerocristatus</i> ).
<i>Giraffatitan</i>	giant giraffe	Late Jurassic	(155.7-150.8 MYA)	85.3 ft (26 m)	Six elephants	Tanzania; Argentina?	Considered a species of <i>Brachiosaurus</i> by many paleontologists.
<i>Lusotitan</i>	Portuguese giant	Late Jurassic	(150.8-145.5 MYA)	?	?	Portugal	Originally thought to be a Portuguese species of <i>Brachiosaurus</i> .
^ <i>Paluxysaurus</i>	Paluxy River [Texas] reptile	Early Cretaceous	(125-112 MYA)	60 ft (18.3 m)	Two elephants	Texas	Possibly closely related to <i>Cedarosaurus</i> . Once considered to be <i>Astrodon</i> .
<i>Pelorosaurus</i>	gigantic reptile	Early Cretaceous	(140.2-125 MYA)	78.7 ft (24 m)	Five elephants	England	Similar to the larger <i>Brachiosaurus</i> .
<i>Sauroposeidon</i>	reptile of Poseidon [Greek god of seas and earthquakes]	Early Cretaceous	(118-110 MYA)	98.4 ft (30 m)	Eight elephants	Oklahoma	A gigantic sauropod. When its neck is fully known, it will probably surpass that of <i>Mamenchisaurus</i> .
<i>Sonorasaurus</i>	Sonora Desert [Arizona] reptile	Early Cretaceous	(105-99.6 MYA)	49.2 ft (15 m)	Three elephants	Arizona	A small, poorly preserved sauropod.
No official genus name; formerly " <i>Pleurocoelus</i> " <i>valdensis</i>		Early Cretaceous	(130-125 MYA)	?	?	England	Known from teeth and vertebrae.
Not yet officially named		Early Cretaceous	(130-125 MYA)	78.7 ft (24 m)	Five elephants	England	A giant brachiosaurid from the Isle of Wight.
* No official genus name; formerly " <i>Brachiosaurus</i> " <i>nougaredi</i>		Early Cretaceous	(112-99.6 MYA)	?	Five elephants	Algeria	A poorly studied giant brachiosaurid from northern Africa.

**Primitive Titanosaurs— Early Wide-Bodied Big-Nosed Dinosaurs (Chapter 25)**

Titanosaurs were characterized by wide bodies. New discoveries are giving us more information about their diversity. Within Titanosauria are many subgroups, whose exact relationships with each other will change as more fossils are studied. The dinosaurs in this list do not seem to belong to any of the various advanced groups (which together form the Eutitanosauria, or "true titanosaurs") or have not been studied well enough to clearly place them in the titanosaur family tree.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Amargatitanis</i>	Amarga Formation [Argentina] titan	Early Cretaceous	(130-120 MYA)	?	?	Argentina	Only a few parts have been discovered.
<i>Andesaurus</i>	Andes Mountains reptile	Late Cretaceous	(99.6-97 MYA):	59 ft (18 m)	Two elephants	Argentina	A primitive titanosaur with similarities to the (much larger) <i>Argentinosaurus</i> .
* <i>Atacamatitan</i>	Atacama [Desert] titan	Late Cretaceous	too uncertain to narrow down	?	Two elephants?	Chile	The first good titanosaur bones from Chile, and in fact some of the most complete dinosaur bones found in South America west of the Andes. The geologic age of the site is still very uncertain.
<i>Austrosaurus</i>	southern reptile	Early Cretaceous	(112-99.6 MYA)	65.6 ft (20 m)?	Two elephants?	Australia	The largest dinosaur from Australia. A good skeleton is known, but is not yet described in detail.
* <i>Balochisaurus</i>	Balochi [tribe of Pakistan] reptile	Late Cretaceous	(70.6-65.5 MYA)	?	?	Pakistan	Known from a partial snout and some isolated tail bones.
* <i>Barrosasaurus</i>	[Sierra] Barrosa [locality] reptile	Late Cretaceous	(85.8-70.6 MYA)	?	Three elephants?	Argentina	Known only from three back vertebrae.
<i>Baurutitan</i>	Bauru Group [Brazil] giant	Late Cretaceous	(83.5-65.5 MYA)	?	?	Brazil	Known from hip and tail vertebrae.
* <i>Brohisaurus</i>	Brohi [tribe of Pakistan] reptile	Late Jurassic	(155.7-150.8 MYA)	?	?	Pakistan	One of the first dinosaurs discovered in Pakistan, and one of the few Late Jurassic dinosaurs from the Indian subcontinent.
<i>Campylodoniscus</i>	bent tooth	Late Cretaceous	(72.8-66.8 MYA)	?	?	Argentina	Only an upper jaw is known. Has more primitive teeth than the typical sauropods (titanosaurs) with which it lived.
<i>Chubutisaurus</i>	Chubut Province [Argentina] reptile	Late Cretaceous	(89.3-65.5 MYA)	75.5 ft (23 m)	Four elephants	Argentina	One of the most primitive titanosaurs.

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

* <i>Daxiatitan</i>	Daxia [a branch of the Yellow River] giant	Early Cretaceous	(115-105 MYA)	75.5 ft (23 m)?	Four elephants?	China	Only poorly known at present, a giant very long-necked form. Originally considered similar to <i>Euhelopus</i> and <i>Huanghetitan</i> , but its femur suggests that it had a wide stance, and thus is more likely a true titanosaur.
^ <i>Dongbeititan</i>	[Chinese paleontologist] Dong [Zhiming]'s titan	Early Cretaceous	(125-120 MYA)	?	?	China	Known from the same formation as many of the feathered coelurosaur specimens.
* <i>Dongyangosaurus</i>	Dongyang City [China] reptile	Late Cretaceous	(99.6-85 MYA)	49.2 ft (15 m)?	Two elephants	China	One of several newly discovered Chinese titanosaur.
<i>Gobititan</i>	Gobi Desert giant	Early to Late Cretaceous	(112-93.5 MYA)	?	?	China	Known from tail and leg bones similar to those of <i>Tangvayosaurus</i> .
<i>Hypselosaurus</i>	high reptile	Late Cretaceous	(70.6-65.5 MYA)	39.4 ft (12 m)	Two elephants	France	One of the last sauropods of Europe. Eggs and nests of a titanosaur from France are thought to come <i>Hypselosaurus</i> .
<i>Iuticosaurus</i>	Jutes [ancient people of the Isle of Wight] reptile	Early Cretaceous	(130-125 MYA)	49.2 ft (15 m)	Two elephants	England	Poorly known but definitely titanosaurian.
<i>Janenschia</i>	for [German paleontologist Werner] Janensch	Late Jurassic	(155.7-150.8 MYA)	?	Two elephants	Tanzania	A heavily built sauropod known only from limb bones. May be the same dinosaur as <i>Tendaguria</i> . The oldest known titanosaur.
<i>Jiangshanosaurus</i>	Jiangshan [China] reptile	Early Cretaceous	(112-99.6 MYA)	?	?	China	Features of its shoulder girdle show it to be a titanosaur. Don't confuse it with the older prosauropod <i>Jingshanosaurus</i> .
<i>Jiutaisaurus</i>	Jiutai Village [China] reptile	Early Cretaceous	(125-112 MYA)	?	?	China	Known only from a series of tail vertebrae.
<i>Karongasaurus</i>	Karonga District [Malawi] reptile	Early Cretaceous	(time very uncertain)	?	Elephant	Malawi	Known only from jaws and teeth.
* <i>Khetranisaurus</i>	Khetran [tribe of Pakistan] reptile	Late Cretaceous	(70.6-65.5 MYA)	?	?	Pakistan	Only known from some isolated tail bones.
<i>Laplatasaurus</i>	La Plata [Argentina] reptile	Late Cretaceous	(72.8-66.8 MYA)	59 ft (18 m)	Three elephants	Argentina	Once considered a species of <i>Titanosaurus</i> .
<i>Lapparentosaurus</i>	[French paleontologist Albert de] Lapparent's reptile	Middle Jurassic	(167.7-164.7 MYA)	?	?	Madagascar	Closely related, if not ancestral, to <i>Brachiosaurus</i> .
<i>Ligabuesaurus</i>	[Italian dinosaur hunter Giancarlo] Ligabue's reptile	Early Cretaceous	(117-100 MYA)	?	?	Argentina	Its long forelimbs are like those of <i>Brachiosaurus</i> .
<i>Macrurosaurus</i>	long-tailed reptile	Late Cretaceous	(99.6-93.5 MYA)	39.4 ft (12 m)	Elephant	England	Known from various parts of the skeleton. At least some of the bones are from a titanosaur, but others might be from a different type of sauropod.
* <i>Malarguesaurus</i>	Malargue [Department of Mendoza Province] reptile	Late Cretaceous	(93.5-85.8 MYA)	?	Three elephants?	Argentina	A robust sauropod, closely related to <i>Ligabuesaurus</i> and <i>Phuwiangosaurus</i> .
* <i>Marisaurus</i>	Mari [tribe of Pakistan] reptile	Late Cretaceous	(70.6-65.5 MYA)	?	?	Pakistan	Known from a partial skull, some vertebrae, some ribs, and some limb bones.
* <i>Maxakalisaurus</i>	Maxakali [tribe of Brazil] reptile	Late Cretaceous	(93.5-85.8 MYA)	65.5 ft (20 m)	Three elephants	Brazil	One of Brazil's largest known dinosaurs. Possibly a nemegtosaurid, antarctosaurid, or saltasaurid.
* <i>Narambuenatitan</i>	[Puesto] Narambuena [locality] reptile	Late Cretaceous	(83.5-70.6 MYA)	?	?	Argentina	Known from a partial skeleton.
* <i>Pakisaurus</i>	Pakistan reptile	Late Cretaceous	(70.6-65.5 MYA)	?	?	Pakistan	Only known from some isolated tail bones.
* <i>Paludititan</i>	swamp giant	Late Cretaceous	(70.6-65.5 MYA)	?	Three elephants?	Hungary	A large sauropod from the end of the Cretaceous of Europe.
<i>Phuwiangosaurus</i>	Phu Wiang [Thailand] reptile	Early Cretaceous	(140.2-130 MYA)	82 ft (25 m)	Four elephants	Thailand	Similar to <i>Tangvayosaurus</i> .
<i>Puertasaurus</i>	[Argentine fossil hunter Pablo] Puerta's reptile	Late Cretaceous	(70.6-68.5 MYA)	98.4 ft (30 m)?	Eleven elephants	Argentina	Known only from some vertebrae, but of gigantic size.
* <i>Qingxiusaurus</i>	Qingxiu Mountains reptile	Late Cretaceous	(85.8-70.6 MYA)	?	?	China	Only recently discovered; one of the last Chinese sauropods.
* <i>Ruyangosaurus</i>	Ruyang [China] reptile	Late Cretaceous	(99.6-93.5 MYA)	?	Eleven elephants	China	One of the largest of all sauropods from Asia, close to <i>Puertasaurus</i> in size.
* <i>Sulaimanisaurus</i>	Sulaiman foldbelt [geologic feature of Pakistan] reptile	Late Cretaceous	(70.6-65.5 MYA)	?	?	Pakistan	Known only from isolated tail vertebrae.
<i>Tangvayosaurus</i>	Tang Vay Village [Laos] reptile	Early Cretaceous	(125-99.6 MYA)	?	?	Laos	Several individuals are known.
<i>Titanosaurus</i>	Titan [race of mythological Greek giants] reptile	Late Cretaceous	(70.6-65.5 MYA)	39.4 ft (12 m)?	Elephant?	India	Despite giving its name to a large group of dinosaurs, true <i>Titanosaurus</i> is known from only a few tail bones and a femur.
* <i>Uberabatitan</i>	Uberaba City [Brazil] titan	Late Cretaceous	(70.6-65.5 MYA)	?	?	Brazil	Only recently discovered; one of the last Brazilian sauropods.
* <i>Wintonotitan</i>	Winton [Formation] giant	Early Cretaceous	(112-99.6 MYA)	56.1 (17 m)?	Three elephants?	Australia	Based on fossils once considered as belonging to <i>Austrosaurus</i> . Longer, but more lightly built, than its neighbor <i>Diamantinasaurus</i> .
No official genus name; formerly " <i>Pelorosaurus</i> " <i>becklesii</i>		Early Cretaceous	(130-125 MYA)	?	?	England	Known from a forelimb with skin impressions.
No official genus name; formerly " <i>Pleurocoelus</i> " <i>valdensis</i>		Early Cretaceous	(130-125 MYA)	?	?	England	Known from only fragmentary material.

No official genus name; formerly " <i>Antarctosaurus</i> " <i>giganteus</i>	Late Cretaceous	(88-86 MYA)	108.2 ft (33 m)?	Nine elephants	Argentina	Once considered a species of <i>Antarctosaurus</i> ; one of the largest dinosaurs known.
No official genus name; formerly " <i>Antarctosaurus</i> " <i>jaxarensis</i>	Late Cretaceous	(93.5-83.5 MYA)	?	?	Kazakhstan	Once considered a species of <i>Antarctosaurus</i> .

**\*\* Argynosaurids—Advanced Wide-Bodied Big-Nosed Dinosaurs (Chapter 25)**

Argynosauridae includes some very large titanosaurs from the early part of the Late Cretaceous.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Argynosaurus</i>	silver reptile	Late Cretaceous	(99.6-93.5 MYA)	91.9 ft (28 m)?	Seven elephants	Argentina	One of several tremendously large sauropods from this time.
<i>Paralititan</i>	shoreline giant	Late Cretaceous	(99.6-93.5 MYA)	105 ft (32 m)	Ten elephants	Egypt	A giant swamp-dwelling sauropod.

**\*\* Aeolosaurids—Advanced Wide-Bodied Big-Nosed Dinosaurs (Chapter 25)**

Aeolosauridae are a group of South American titanosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Adamantisaurus</i>	Adamantina Formation reptile	Late Cretaceous	(70.6-65.5 MYA)	?	?	Brazil	Based on tail bones.
<i>Aeolosaurus</i>	Aeolus [Greek wind god] reptile	Late Cretaceous	(72.8-66.8 MYA)	49.2 ft (15 m)	Two elephants	Argentina	Shows some similarities to <i>Gondwanatitan</i> .
<i>Gondwanatitan</i>	giant of Gondwana [southern supercontinent]	Late Cretaceous	(85.8-83.5 MYA)	?	?	Brazil	Similar to <i>Aeolosaurus</i> .
* <i>Muyelensaurus</i>	Muyelen [local name for Colorado River] reptile	Late Cretaceous	(93.5-85.8 MYA)	46.2 ft (14 m)	Two elephants	Argentina	Most closely related to <i>Rincosaurus</i> .
* <i>Panamericansaurus</i>	Pan American [Energy Company] reptile	Late Cretaceous	(83.5-65.5 MYA)	36.3 ft (11 m)	Elephant	Argentina	Very close relative of <i>Gondwanatitan</i> .
* <i>Pitekunsaurus</i>	discovery reptile	Late Cretaceous	(83.5-70.6 MYA)	?	Two elephants?	Argentina	Various parts of the body are known.
<i>Rincosaurus</i>	Rincón de los Sauces [site in Argentina] reptile	Late Cretaceous	(89.3-85.8-MYA)	49.2 ft (15 m)	Two elephants	Argentina	Some similarities to <i>Aeolosaurus</i> .

**\*\* Lognkosaurids—Chief Dinosaurs (Chapter 25)**

Lognkosauria ("chief reptiles") are recently discovered group of giant titanosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Drusilasaura</i>	Drusila [Ortiz de Zarate, the young volunteer who helped discover the specimen]'s reptile	Late Cretaceous	(99.6-89.3 MYA)	?	Three elephants?	Argentina	Like many sauropods, only known from a partial skeleton.
^ <i>Futalognkosaurus</i>	giant chief lizard	Late Cretaceous	(93.5-85.8 MYA)	91.9 ft (28 m)	Seven elephants	Argentina	Among the giant titanosaurs this one is known by the most complete fossil skeleton. Lived in the same environment as <i>Megaraptor</i> .
<i>Mendozasaurus</i>	Mendoza City [Argentina] reptile	Late Cretaceous	(93.5-85.8 MYA)	72.6 ft (22 m)	Three elephants	Argentina	Shows some similarities to India's <i>Isisaurus</i> , but current work shows it to be a close relative of the giant <i>Futalognkosaurus</i> . Shows some similarities to lognkosaurids, but may actually be more primitive. Bones from several parts of the body are known.
* <i>Petrobrasaurus</i>	Petrobras [petroleum company] reptile	Late Cretaceous	(89.3-83.5 MYA)	59.4 ft (18 m)?	Three elephants	Argentina	
* <i>Traukutitan</i>	mountain spirit giant	Late Cretaceous	(85.8-83.5 MYA)	46.2 ft (14 m?)	Two elephants?	Argentina	Known only from femora (thigh bones) and tail vertebrae.

**\*\* Antarctosaurids—Tall-Necked Advanced Wide-Bodied Big-Nosed Dinosaurs (Chapter 25)**

Antarctosauridae was a widespread group of long-necked titanosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Alamosaurus</i>	Ojo Alamo [New Mexico] reptile	Late Cretaceous	(66.8-65.5 MYA)	100 ft (30 m) or more?	Eleven or more elephants	Texas, Utah and possibly New Mexico	North America's youngest and largest sauropod. Once thought to be much smaller, but those specimens turned out to be juveniles.
<i>Antarctosaurus</i>	southern reptile	Late Cretaceous	(83-78 MYA)	59 ft (18 m)	Three elephants	Argentina; Chile; Uruguay	Shows the same blunt snout as <i>Bonitasaura</i> .
<i>Argentinosaurus</i>	Argentina reptile	Late Cretaceous	(97-93.5 MYA)	120 ft (36.6 m)?	Thirteen elephants	Argentina	Perhaps the largest dinosaur known.
<i>Bonitasaura</i>	La Bonita Hill [Argentina] reptile	Late Cretaceous	(85.8-83.5 MYA)	23 ft (7 m) as a juvenile	?	Argentina	The only known specimen so far is a juvenile, so adults would be bigger than this. Known from a very complete skull.
<i>Borealosaurus</i>	northern reptile	Late Cretaceous	(99.6-89.3 MYA)	?	?	China	Its tail vertebrae show similarities to those of <i>Opisthocoelicaudia</i> .
* <i>Diamantinasaurus</i>	Diamantina River [Australia] reptile	Early Cretaceous	(112-99.6 MYA)	52 ft (16 m)	Three elephants	Australia	One of the most completely known sauropods of Australia, and one of the oldest advanced titanosaurs. Nicknamed "Matilda" after the famous Australian song "Waltzing Matilda".
<i>Isisaurus</i>	Indian Statistical Institute reptile	Late Cretaceous	(70.6-65.5 MYA)	59 ft (18 m)	Three elephants	India	Previously considered a species of <i>Titanosaurus</i> .

<i>Huabeisaurus</i>	North China reptile	Late Cretaceous	(83.5-70.6 MYA)	?	?	China	A large sauropod with similarities to <i>Opisthocoelicaudia</i> and <i>Nemegtosaurus</i> .
<i>Opisthocoelicaudia</i>	hollow-backed tail [vertebrae]	Late Cretaceous	(70.6-68.5 MYA)	37.4 ft (11.4 m)	Two elephants	Mongolia	Known only from a headless skeleton. Possibly the same dinosaur as <i>Nemegtosaurus</i> .
<i>Pellegrinisaurus</i>	Lake Pellegrini [Argentina] reptile	Late Cretaceous	(72.8-66.8 MYA)	72.2 ft (22 m)	Three elephants	Argentina	Known from back and tail vertebrae and a femur.
<i>Sonidosaurus</i>	Sonid Region [China] reptile	Late Cretaceous	(95-80 MYA)	29.5 ft (9 m)	Rhino	China	Shows some similarities to <i>Opisthocoelicaudia</i> .
	* No official genus name; formerly " <i>Antarctosaurus</i> " <i>braziliensis</i>	Late Cretaceous	(85.8-83.5 MYA)	?	?	Brazil	A poorly known form.

**\*\* Nemegtosaurids—Wide-Mouthed Advanced Wide-Bodied Big-Nosed Dinosaurs (Chapter 25)**

Nemegtosauridae was a widespread group of titanosaurs with rather broad snouts.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Aegyptosaurus</i>	Egypt reptile	Late Cretaceous	(99.6-93.5 MYA)	52.5 ft (16 m)	Two elephants	Egypt	Once known from a good, if incomplete skeleton, which was unfortunately destroyed during World War II.
<i>Agustinia</i>	for Agustín [Martinelli, a young Argentine student who helped discover the dinosaur]	Early Cretaceous	(117-100-MYA)	?	Elephant	Argentina	A titanosaur with spiky armor (which was once thought to come from a stegosaur).
<i>Ampelosaurus</i>	vineyard reptile	Late Cretaceous	(70.6-65.5 MYA)	49.2 ft (15 m)	Two elephants	France	Known from the bones of many individuals, found in a vineyard.
* <i>Atsinganosaurus</i>	gypsy reptile	Late Cretaceous	(83.5-70.6 MYA)	?	?	France	Only known from limited material which resembles the same bones in <i>Malawisaurus</i> .
<i>Epachthosaurus</i>	heavy reptile	Late Cretaceous	(99.6-93.5 MYA)	59 ft (18 m)	Three elephants	Argentina	Previously known from incomplete material, but a newly discovered skeleton will show us many more details of this titanosaur.
<i>Magyarosaurus</i>	Magyar [Hungarian people] reptile	Late Cretaceous	(70.6-68.5 MYA)	17.4 ft (5.3 m)	Horse	Romania	One of the smallest sauropods. Lived on an island in what is now Transylvania.
<i>Malawisaurus</i>	Malawi reptile	Early Cretaceous	(time very uncertain)	39.4 ft (12 m)	Elephant	Malawi	Had a short face and armor. Possibly a nemegtosaurid, but also possibly a close relative of the lognkosaurs.
<i>Nemegtosaurus</i>	Nemegt Formation reptile	Late Cretaceous	(70.6-68.5 MYA)	39.4 ft (12 m)?	Elephant	Mongolia	Known only from its skull. Possibly the same dinosaur as <i>Opisthocoelicaudia</i> .
<i>Rapetosaurus</i>	Rapeto [mischievous giant in Malagasy legend] reptile	Late Cretaceous	(70.6-65.5 MYA)	49.2 ft (15 m)	Two elephants	Madagascar	Known from nearly complete skeletons.
* <i>Tapuiasaurus</i>	<i>tapuia</i> (a native word for "all the tribes of the Brazilian interior") reptile	Early Cretaceous	(125-112 MYA)	?	Elephant	Brazil	A partial skeleton, including one of the most complete titanosaur skulls ever found. Surprisingly advanced for its time: it closely resembles the titanosaurs of the Late Cretaceous.
<i>Trigonosaurus</i>	Triangulo Mineiro [region in Brazil] reptile	Late Cretaceous	(83.5-65.5 MYA)	?	?	Brazil	Known from some connected tail bones and many isolated bones.

**Saltasaurids—Advanced Wide-Bodied Big-Nosed Dinosaurs (Chapter 25)**

Saltasauridae includes the specialized group of Late Cretaceous wide-mouthed titanosaurs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Bonatitan</i>	[Argentine paleontologist José] Bonaparte's giant	Late Cretaceous	(72.8-66.8 MYA)	?	?	Argentina	Parts of the skull and tail are known.
<i>Lirainosaurus</i>	slender reptile	Late Cretaceous	(72.8-66.8 MYA)	?	?	Spain	Several individuals are known.
<i>Loricosaurus</i>	cuirass reptile	Late Cretaceous	(72.8-66.8 MYA)	?	?	Argentina	Known from armor once thought to be ankylosaurian.
<i>Neuquensaurus</i>	Neuquén Province [Argentina] reptile	Late Cretaceous	(85.8-83.5MYA)	49.2 ft (15 m)	Two elephants	Argentina; Uruguay	Related to <i>Saltasaurus</i> , but much larger.
<i>Quaesitosaurus</i>	extraordinary reptile	Late Cretaceous	(85.8-70.6 MYA)	39.4 ft (12 m)?	Elephant	Mongolia	Very similar to, and possibly an ancestor of <i>Nemegtosaurus</i> . Known only from its skull.
<i>Rocasaurus</i>	General Roca City [Argentina] reptile	Late Cretaceous	(72.8-66.8 MYA)	?	?	Argentina	Many bones are known.
<i>Saltasaurus</i>	Salta Province [Argentina] reptile	Late Cretaceous	(72.8-66.8 MYA)	39.4 ft (12 m)	Elephant	Argentina	A small sauropod. Its discovery showed that titanosaurs had armor.
Not yet officially named		Late Cretaceous	(70.6-65.5 MYA)	?	Three elephants	Madagascar	Not yet described, but distinct from <i>Rapetosaurus</i> .

**Primitive Ornithischians—Early Bird-Hipped Dinosaurs (Chapter 26)**

Ornithischia—or bird-hipped dinosaurs—was a major group of plant-eating dinosaurs. The following genera are ornithischians that do not clearly belong to any of the advanced ornithischian groups—armored Thyreophora, beaked Ornithopoda, or ridge-headed Marginocephalia.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Eocursor</i>	dawn runner	Late Triassic	(228-204 MYA)	3.3 ft (1 m)	Turkey	South Africa	The most completely known Triassic ornithischian.

<i>Fabrosaurus</i>	[French geologist Jean] Fabre's reptile	Early Jurassic	(196.5-183 MYA)	3.3 ft (1 m)?	Turkey	Lesotho	Known only from a partial jawbone with teeth.
<i>Pisanosaurus</i>	[Argentine paleontologist Juan A.] Pisano's reptile	Late Triassic	(235-228 MYA)	3.3 ft (1 m)?	Turkey?	Argentina	The only ornithischian known that probably had a forward-pointing pubis.
<i>Taveirosaurus</i>	Taveiro Village [Portugal] reptile	Late Cretaceous	(78-68 MYA)	?	Beaver?	Portugal	Known only from teeth.
<i>Trimucrodon</i>	triple-point tooth	Late Jurassic	(155.7-150.8MYA)	?	Turkey?	Portugal	Known only from teeth.

**Heterodontosaurids—Strong-Snouted Early Bird-Hipped Dinosaurs (Chapter 26)**

Heterodontosauridae was a group of early specialized ornithischians, once considered to be ornithopods.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Abriectosaurus</i>	awake reptile	Early Jurassic	(199.6-189.6 MYA)	3.9 ft (1.2 m)	Turkey	South Africa; Lesotho	Possibly just the juvenile or female form of <i>Heterodontosaurus</i> .
<i>Echinodon</i>	prickly tooth	Early Cretaceous	(145.5-140.2 MYA)	30 in (75 cm)	Chicken	England	Known from jawbones and teeth found in England. Supposed <i>Echinodon</i> fossils have been found in the Late Jurassic of Colorado.
* <i>Fruitadens</i>	Fruita [quarry in Colorado] tooth	Late Jurassic	(155.7-150.8 MYA)	30 in (75 cm)	Chicken	Colorado	Once considered a Late Jurassic American species of <i>Echinodon</i> . One of the smallest known ornithischians.
<i>Geranosaurus</i>	crane reptile	Early Jurassic	(196.5-189.6 MYA)	?	Turkey	South Africa	Known only from jawbones.
<i>Heterodontosaurus</i>	different-toothed reptile	Early Jurassic	(199.6-189.6 MYA)	3.6 ft (1.1 m)	Turkey	South Africa	The most completely known heterodontosaurid.
<i>Lanasaurus</i>	wool reptile	Early Jurassic	(199.6-189.6 MYA)	3.9 ft (1.2 m)?	Turkey?	South Africa	Known only from jawbones; possibly the same dinosaur as <i>Lycorhinus</i> .
<i>Lycorhinus</i>	wolf snout	Early Jurassic	(199.6-189.6MYA)	3.9 ft (1.2 m)?	Turkey?	South Africa	Known only from jawbones.
* <i>Manidens</i>	hand tooth, after the shape of the teeth in the back of its jaws	Middle Jurassic	(171-167 MYA)	30 in (75 cm)	Chicken	Argentina	Closely related to the Early Jurassic African heterodontosaurs.
* <i>Tianyulong</i>	Tianyu [Museum of Natural History] dragon	Late Jurassic	(161.2-155.7 MYA)	30 in (75 cm)	Chicken	China	Has long protofeathers on its back.
* Not yet officially named		Late Triassic	(228-204 MYA)	3.3 ft (1 m)?	Turkey?	Argentina	Known from various bones; the oldest known heterodontosaurid.

**Primitive Thyreophorans—Early Armored Dinosaurs (Chapter 27)**

The following genera are early members of Thyreophora and not part of either Stegosauria or Ankylosauria.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Bienosaurus</i>	[Chinese paleontologist Mei Nien] Bien's reptile	Early Jurassic	(196.5-189.6 MYA)	13.1 ft (4 m)?	Grizzly bear?	China	Known from a <i>Scelidosaurus</i> -like jaw.
<i>Emausaurus</i>	Ernst Moritz Arndt University reptile	Early Jurassic	(183-175.6 MYA)	6.6 ft (2 m)	Sheep	Germany	May be the oldest and most primitive stegosaurian.
<i>Lesothosaurus</i>	Lesotho reptile	Early Jurassic	(196.5-183 MYA)	3.3 ft (1 m)	Turkey	Lesotho	Possibly the same species as <i>Fabrosaurus</i> . Once thought to be a typical primitive ornithischian, but new analyses suggest that it is the most primitive (and as far as we know, only unarmored) thyreophoran.
<i>Lusitanosaurus</i>	Portuguese reptile	Early Jurassic	(196.5-189.6 MYA)	?	?	Portugal	Known only from the top of a skull; possibly the same dinosaur as <i>Scelidosaurus</i> .
<i>Scelidosaurus</i>	shin reptile	Early Jurassic	(196.5-183 MYA)	13.1 ft (4 m)	Grizzly bear	England; Arizona	Known from a couple of good skeletons; thought by some to be the most primitive ankylosaurian.
<i>Scutellosaurus</i>	small-shield reptile	Early Jurassic	(199.6-189.6 MYA)	3.9 ft (1.2 m)	Beaver	Arizona	The most primitive thyreophoran known from a good fossil.
<i>Tatisaurus</i>	Dadi Village [China] reptile	Early Jurassic	(196.5-189.6 MYA)	3.9 ft (1.2 m)?	Beaver?	China	Known from skull material that resembles the skulls of stegosaurians and <i>Scelidosaurus</i> .

**\*\* Primitive Stegosaurids—Early Plated Dinosaurs (Chapter 28)**

These are thyreophorans with a series of spikes and armor plates along their backs. This list includes those dinosaurs in Stegosauria that are not clearly part of the more specialized groups Huayangosauridae or Stegosauridae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Chialingosaurus</i>	Jialing River [China] reptile	Late Jurassic	(161.2-155.7 MYA)	13.1 ft (4 m)	Grizzly bear	China	Known from a partial skeleton of a not-fully-grown individual.
<i>Craterosaurus</i>	cup [skull] reptile	Early Cretaceous	(145.5-136.4 MYA)	13.1 ft (4 m)?	Grizzly bear?	England	Known only from a vertebra (which was misinterpreted as a skull, hence the name). It is so eroded it is not clear that this is from a stegosaur.
<i>Jiangjunosaurus</i>	general reptile	Late Jurassic	(161.2-155.7 MYA)	23 ft (7 m)	Rhino	China	From the western part of China.
<i>Lexovisaurus</i>	Lexovii [ancient people of France] reptile	Middle to Late Jurassic	(164.7-150.8 MYA)	16.4 ft (5 m)	Horse	England; France	Similar in many ways to <i>Kentrosaurus</i> .
<i>Regnosaurus</i>	Regni [ancient tribe of Britain] reptile	Early Cretaceous	(145.5-136.4 MYA)	13.1 ft (4 m)?	Grizzly bear	England	A partial lower jaw, similar to the jaw of <i>Huayangosaurus</i> , is all that is known of this dinosaur. It may not even be from a stegosaur.

Not yet officially named	Late Jurassic	(155.7-150.8 MYA)	16.4 ft (5 m)	Horse	Tibet	Not yet fully described. The first Mesozoic dinosaur found in Tibet.
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**\*\* Huayangosauridae—Primitive Plated Dinosaurs (Chapter 28)**

Huayangosauridae is a clade of primitive stegosaurs, currently known only from the Jurassic of China.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Chungkingosaurus</i>	Chongqing [China] reptile	Late Jurassic	(161.2-155.7 MYA)	11.5 ft (3.5 m)	Grizzly bear	China	Known from several skeletons. A fairly small stegosaurian.
<i>Huayangosaurus</i>	Sichuan reptile	Middle Jurassic	(167.7-161.2 MYA)	14.8 ft (4.5 m)	Horse	China	Known from several skeletons. The best-known primitive stegosaurian.

**\*\* Primitive Stegosaurids—Advanced Plated Dinosaurs (Chapter 28)**

Stegosauridae includes the more advanced members of Stegosauria. The stegosaurids here lie outside the groups Dacentrurinae and Stegosaurinae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Gigantspinosaurus</i>	giant spine reptile	Late Jurassic	(161.2-155.7 MYA)	23 ft (7 m)	Rhino	China	A primitive stegosaur with enormous shoulder spines.
<i>Kentrosaurus</i>	sharp-point reptile	Late Jurassic	(155.7-150.8 MYA)	16.4 ft (5 m)	Horse	Tanzania	Over thirty partial skeletons were found, but most were destroyed when the German museum they were in was bombed during World War II.
* <i>Loricatosaurus</i>	armored reptile	Middle Jurassic	(164.7-161.2 MYA)	16.4 ft (5 m)	Horse	England; France	Once considered a species of <i>Lexovisaurus</i> .
<i>Paranthodon</i>	near <i>Anthodon</i> [fossil reptile]	Early Cretaceous	(145.5-136.4 MYA)	16.4 ft (5 m)?	Horse?	South Africa	Known from a partial skull.
<i>Tuojiangosaurus</i>	Tuo River [China] reptile	Late Jurassic	(161.2-155.7 MYA)	23 ft (7 m)	Rhino	China	The largest known Chinese stegosaurian.

**\*\* Dacentrurines—Advanced Plated Dinosaurs (Chapter 28)**

Dacentrurinae is currently known only from the Late Jurassic of Europe.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Dacentrurus</i>	very spiky tail	Late Jurassic	(161.2-145.5 MYA)	26.2 ft (8 m)	Rhino	England; Portugal; France	One of the biggest stegosaurs, known from many fossils (most not yet fully described).
* <i>Miragaia</i>	Mirigaia [Parish in Portugal]	Late Jurassic	(150.8-145.5 MYA)	20 ft (6.1 m)	Rhino	Portugal	Has 17 neck vertebrae, the most of any ornithischian.

**\*\* Stegosaurines—Most Advanced Plated Dinosaurs (Chapter 28)**

Stegosaurinae includes the most specialized (and last) of the stegosaurs. These forms have alternating rather than paired plates, and lack shoulder spines.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Hesperosaurus</i>	western reptile	Late Jurassic	(155.7-150.8 MYA)	16.4 ft (5 m)	Horse	Wyoming	Once thought to be a <i>Dacentrurus</i> -like stegosaurian from America, but now considered a very close relative (if not the same as) <i>Stegosaurus</i> .
<i>Hypsirophus</i>	high-roofed [vertebrae]	Late Jurassic	(155.7-150.8 MYA)	23 ft (7 m)?	Rhino?	Colorado	Known from only a few vertebrae. Almost certainly just a species of <i>Stegosaurus</i> .
<i>Stegosaurus</i>	covered reptile	Late Jurassic	(155.7-150.8 MYA)	29.5 ft (9 m)	Rhino	Utah, Colorado, Wyoming; Portugal	The best-known stegosaurian. Some paleontologists think that this genus should be broken up into two genera: true <i>Stegosaurus</i> and smaller <i>Diracodon</i> . Alternatively, other paleontologists think that <i>Wuerhosaurus</i> and <i>Hesperosaurus</i> should be considered species of <i>Stegosaurus</i> .
<i>Wuerhosaurus</i>	Wuerho [China] reptile	Early Cretaceous	(time very uncertain)	20 ft (6.1 m)	Rhino	China	One of the last stegosaurs. Had long and low plates rather than tall plates or spikes.

**Primitive Ankylosaurs—Early Tank Dinosaurs (Chapter 29)**

Ankylosaurs had heavy armor plates over their bodies. The interrelationships among the ankylosaurs are still uncertain. The following dinosaurs are definitely ankylosaurs, but some or all of these may not be in either of the advanced groups Nodosauridae or Ankylosauridae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Acanthopholis</i>	spine scutes	Early to Late Cretaceous	(105-93.5 MYA)	18 ft (5.5 m)	Horse	England	Although long known, still not fully studied.
<i>Crichtonsaurus</i>	[ <i>Jurassic Park</i> author Michael] Crichton's reptile	Late Cretaceous	(99.6-89.3 MYA)	?	?	China	Not yet well described. Very likely an ankylosaurid.
<i>Cryptosaurus</i>	hidden reptile	Late Jurassic	(161.2-155.7 MYA)	?	?	England	Known only from a femur. Once also called " <i>Cryptodraco</i> ."
<i>Dracopelta</i>	dragon shield	Late Jurassic	(155.7-150.8 MYA)	6.6 ft (2 m)	Sheep	Portugal	A medium-size ankylosaur.
<i>Heishansaurus</i>	Black Mountain [China] reptile	Late Cretaceous	(83.5-80 MYA)	?	?	China	Known only from a partial skull. Might actually be from a pachycephalosaur.
<i>Priconodon</i>	saw-cone tooth	Early Cretaceous	(118-110 MYA)	?	?	Maryland	Known only from a tooth. Possibly the same dinosaur as <i>Sauropelta</i> .
<i>Prionotognathus</i>	saw-toothed jaw	Late Jurassic to Early Cretaceous	(exact age uncertain)	?	?	England	Known from an upper jaw. Loss of the appropriate paperwork means that no one is certain which rocks this fossil was found in!

<i>Sarcolestes</i>	flesh thief	Middle Jurassic	(164.7-161.2 MYA)	9.8 ft (3 m)	Lion	England	Originally thought to be a carnivorous dinosaur.
<i>Tianchiasaurus</i>	Heavenly Pool Lake [China] reptile	Middle Jurassic	(167.7-164.7 MYA)	9.8 ft (3 m)	Lion	China	Was going to be called " <i>Jurassosaurus</i> ". One of the most primitive ankylosaurs.

**Nodosaurids—Spike-Shouldered Tank Dinosaurs (Chapter 29)**

These ankylosaurs are characterized by huge spines on their shoulders.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Aletopelta</i>	wandering shield	Late Cretaceous	(80-72.8 MYA)	?	?	California	Known from a partial skeleton. California's first named Mesozoic dinosaur.
<i>Animantarx</i>	living fortress	Early to Late Cretaceous	(102-98 MYA)	?	?	Utah	A small nodosaurid, discovered by detecting the radioactivity of the bones while they were still completely buried.
<i>Anoplosaurus</i>	unarmored reptile	Early Cretaceous	(105-99.6 MYA)	?	?	England	Probably a juvenile skeleton of a primitive nodosaurid. Closely related to <i>Hylaeosaurus</i> .
<i>Antarctopelta</i>	Antarctic shield	Late Cretaceous	(75-70.6 MYA)	13.1 ft (4 m)	?	Antarctica	The first ornithischian named from Antarctica.
<i>Danubiosaurus</i>	Danube River reptile	Late Cretaceous	(83.5-80 MYA)	13.1 ft (4 m)	Grizzly bear	Austria	Possibly the same dinosaur as <i>Struthiosaurus</i> .
<i>Edmontonia</i>	from the Edmonton Formation	Late Cretaceous	(80-65.5 MYA)	23 ft (7 m)	Rhino	Alberta; Montana, Wyoming, South Dakota, New Mexico, Texas	A common nodosaurid from the Late Cretaceous of North America. Some paleontologists consider the youngest species of <i>Edmontonia</i> (66.8-65.5 MYA) to be a distinct form called " <i>Denversaurus</i> ."
<i>Gargyleosaurus</i>	gargoyle reptile	Late Jurassic	(155.7-150.8 MYA)	9.8 ft (3 m)	Lion	Wyoming	Known from many good specimens.
<i>Gastonia</i>	for [discoverer Robert] Gaston	Early Cretaceous	(130-125 MYA)	19.7 ft (6 m)	Rhino	Utah	Very similar to <i>Polacanthus</i> .
<i>Hierosaurus</i>	sacred reptile	Late Cretaceous	(87-82 MYA)	13.1 ft (4 m)	Grizzly bear	Kansas	Sometimes considered the same dinosaur as <i>Nodosaurus</i> .
<i>Hoplitosaurus</i>	shield-carrier reptile	Early Cretaceous	(130-125 MYA)	13.1 ft (4 m)	Grizzly bear	South Dakota	Similar to <i>Gastonia</i> and <i>Polacanthus</i> .
<i>Hungarosaurus</i>	Hungary reptile	Late Cretaceous	(85.8-83.5 MYA)	13.1 ft (4 m)	Grizzly bear	Hungary	One of Hungary's first named dinosaurs.
<i>Hylaeosaurus</i>	Wealden [region of southern England] reptile	Early Cretaceous	(140.2-136.4 MYA)	16.4 ft (5 m)	Horse	England	One of the original members of Owen's Dinosauria.
<i>Mymoorapelta</i>	Mygatt-Moore Quarry [Colorado] shield	Late Jurassic	(155.7-150.8 MYA)	8.8 ft (2.7 m)	Lion	Colorado	The first Jurassic ankylosaur named in North America.
<i>Niobrarasaurus</i>	Niobrara Chalk reptile	Late Cretaceous	(87-82 MYA)	16.4 ft (5 m)	Grizzly bear	Kansas	Known from partial remains of a dinosaur that had floated out into the middle of the inland seas of Kansas.
<i>Nodosaurus</i>	lumpy reptile	Late Cretaceous	(99.6-93.5 MYA)	20 ft (6.1 m)	Horse	Wyoming	One of the first ankylosaurs discovered, but known only from one partial specimen.
<i>Panoplosaurus</i>	completely armored reptile	Late Cretaceous	(80-72.8 MYA)	23 ft (7 m)	Rhino	Alberta	Known from good skulls and skeletons.
<i>Pawpawsaurus</i>	Paw Paw Formation reptile	Early Cretaceous	(105-99.6 MYA)	14.8 ft (4.5 m)	Grizzly bear	Texas, possibly Utah	Possibly the same dinosaur as <i>Texasetes</i> .
* <i>Peloroplites</i>	monster armored soldier	Early Cretaceous	(118-110 MYA)	18.5 ft (5.5 m)	Grizzly bear	Utah	Similar to <i>Sauropelta</i> and (especially) <i>Polacanthus</i> .
<i>Polacanthus</i>	many spines	Early Cretaceous	(130-125 MYA)	13.1 ft (4 m)	Grizzly bear	England; Spain?	The most common thyreophoran of Early Cretaceous England.
* <i>Propanoplosaurus</i>	before <i>Panoplosaurus</i>	Early Cretaceous	(125-112 MYA)	2 ft (60 cm)	Turkey	Maryland	Known only from an impression. Almost certainly a juvenile.
<i>Sauropelta</i>	reptile shield	Early Cretaceous	(118-110 MYA)	24.9 ft (7.6 m)	Rhino	Wyoming, Montana, Utah	One of the most common dinosaurs of Early Cretaceous North America. Known from many good skeletons.
<i>Silvisaurus</i>	woodland reptile	Late Cretaceous	(96-93.5 MYA)	13.1 ft (4 m)	Grizzly bear	Kansas	A distinctive ankylosaur known from a skull and the front end of the body.
<i>Stegopelta</i>	covered shield	Early to Late Cretaceous	(102-98 MYA)	13.1 ft (4 m)	Grizzly bear	Wyoming	May be related to <i>Texasetes</i> , or may actually be a primitive ankylosaurid.
<i>Struthiosaurus</i>	ostrich reptile	Late Cretaceous	(83.5-65.5 MYA)	13.1 ft (4 m)	Grizzly bear	Austria; France; Romania; Spain	One of the most common dinosaurs of Late Cretaceous Europe.
* <i>Tatankacephalus</i>	bison head	Early Cretaceous	(118-110 MYA)	23 ft (7 m)	Rhino	Montana	Originally considered one of the most primitive ankylosaurids. May in fact be a close relative of <i>Gastonia</i> .
<i>Texasetes</i>	Texas dweller	Early Cretaceous	(105-99.6 MYA)	9.8 ft (3 m)	Lion	Texas	May be the same dinosaur as <i>Pawpawsaurus</i> .
* <i>Zhejiangosaurus</i>	Zhejiang Province [China] reptile	Late Cretaceous	(99.6-93.5 MYA)	13.1 ft (4 m)	Grizzly bear	China	One of the few definite nodosaurids from Asia. It seems to be closely related to European <i>Struthiosaurus</i> .
* No official genus name yet; currently " <i>Polacanthus</i> " <i>rudgwickensis</i>		Early Cretaceous	(130-125 MYA)	13.1 ft (4 m)	Grizzly bear	England	An English nodosaurid, originally considered a species of <i>Polacanthus</i> .

**\*\* Primitive Ankylosaurids—Primitive Club-Tailed Tank Dinosaurs (Chapter 29)**

The dinosaurs of Ankylosauridae had tails ending in heavy armored clubs.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Cedarpelta</i>	Cedar Mountain Formation shield	Early to Late Cretaceous	(102-98 MYA)	29.5 ft (9 m)	Rhino	Utah	One of the largest ankylosaurs, rivaling <i>Ankylosaurus</i> . Considered by some to be a nodosaurid.
<i>Gobisaurus</i>	Gobi Desert reptile	Early Cretaceous	(125-99.6 MYA)	16.4 ft (5 m)	Horse	China	Similar to <i>Shamosaurus</i> .
<i>Liaoningosaurus</i>	Liaoning Province [China] reptile	Early Cretaceous	(125-120 MYA)	1.1 ft (34 cm) as juvenile	Turkey	China	Known only from a nearly complete juvenile skeleton.

<i>Minmi</i>	from Minmi Crossing [Australia]	Early Cretaceous	(125-99.6 MYA)	6.6 ft (2 m)	Sheep	Australia	Known from a couple of skeletons. Has unique structures in its vertebrae.
<i>Shamosaurus</i>	desert reptile	Early Cretaceous	(120-112 MYA)	23 ft (7 m)	Rhino	Mongolia	A primitive narrow-snouted ankylosaurid.

**\*\* Ankylosaurines—Advanced Club-Tailed Tank Dinosaurs (Chapter 29)**

The Ankylosaurinae is a group of advanced, Late Cretaceous ankylosaurids.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Ankylosaurus</i>	fused reptile	Late Cretaceous	(66.8-65.5 MYA)	29.5 ft (9 m)	Rhino	Montana, Wyoming; Alberta	The last, and largest, ankylosaurid.
* <i>Ahshislepelta</i>	Ah-shi-sle-pah Wash [locality] shield	Late Cretaceous	(76-72 MYA)	?	Horse	New Mexico	Smaller than most of the other Late Cretaceous North American forms.
<i>Bissektipelta</i>	Bissekty Formation shield	Late Cretaceous	(93.5-89.3 MYA)	?	?	Uzbekistan	Known only from a braincase.
* <i>Dyoplosaurus</i>	double armored reptile	Late Cretaceous	(80-72.8 MYA)	23 ft (7 m)	Rhino	Alberta; Montana	New research shows that the older skeletons once considered to belong to " <i>Euoplocephalus</i> " are actually a distinct genus with a different-shaped club, which is properly called by this name (long unused).
<i>Euoplocephalus</i>	well-armored head	Late Cretaceous	(70.6-68.5 MYA)	23 ft (7 m)	Rhino	Montana; Alberta	The best-studied ankylosaurid, known from many excellent specimens. Geologically older specimens once considered to belong to " <i>Euoplocephalus</i> " are now considered to be a different genus, <i>Dyoplosaurus</i> .
<i>Glyptodontopelta</i>	<i>Glyptodon</i> [extinct armored mammal] shield	Late Cretaceous	(66.8-65.5 MYA)	16.4 ft (5 m)	Horse	New Mexico	Known only from some armor.
<i>Maleevus</i>	for [Russian paleontologist Evgenii Aleksandrovich] Maleev	Late Cretaceous	(99.6-85.8 MYA)	?	?	Mongolia	Probably the same dinosaur as <i>Talarurus</i> .
* <i>Minotaurasaurus</i>	minotaur [Greek mythological monster with the head of a bull] reptile	Late Cretaceous	?	16.4 ft (5 m)	Horse	Mongolia? China?	An ankylosaurid with quite long skull horns. Unfortunately the information about where it was found (and thus the age of the rocks in which it was buried) is not known. It may be a species of <i>Pinacosaurus</i> .
<i>Nodocephalosaurus</i>	lumpy-headed reptile	Late Cretaceous	(72.8-66.8 MYA)	?	?	New Mexico	Similar to Asian <i>Saichania</i> and <i>Tarchia</i> .
<i>Pinacosaurus</i>	plank reptile	Late Cretaceous	(85.8-70.6 MYA)	16.4 ft (5 m)	Horse	Mongolia	Many specimens are known, including very small babies.
<i>Saichania</i>	beautiful one	Late Cretaceous	(85.8-70.6 MYA)	23 ft (7 m)	Rhino	Mongolia	One of the few ankylosaurs found with belly armor.
<i>Talarurus</i>	wicker tail	Late Cretaceous	(99.6-85.8 MYA)	16.4 ft (5 m)	Horse	Mongolia	Had a relatively small tail club and was rounder (less wide) than most ankylosaurids.
<i>Tarchia</i>	brainy one	Late Cretaceous	(70.6-68.5 MYA)	26.2 ft (8 m)	Rhino	Mongolia	The largest Asian ankylosaurid.
<i>Tianzhensaurus</i>	Tianzhen County [China] reptile	Late Cretaceous	(83.5-70.6 MYA)	13.1 ft (4 m)	Grizzly bear	China	A second specimen of this dinosaur was named " <i>Shanxia</i> " at almost the same time.
<i>Tsagantegia</i>	for Tsagan Teg [Mongolia]	Late Cretaceous	(99.6-85.8 MYA)	23 ft (7 m)	Rhino	Mongolia	A long-snouted ankylosaurid.
* <i>Zhongyuansaurus</i>	Zhongyuan District [China] reptile	Late Cretaceous	(89.3-85.8 MYA)	13.1 ft (4 m)	Grizzly bear	China	Known from a crushed (but otherwise good) skull and various other bones. Originally considered a nodosaurid.
* No official genus name, originally " <i>Crichtonsaurus</i> " <i>benxiensis</i>		Late Cretaceous	(99.6-89.3 MYA)	?	Horse	China	Originally included in the more primitive genus <i>Crichtonsaurus</i>

**\*\* Primitive Neornithischians—Early Kin of the Beaked and Ridge-Headed Dinosaurs (Chapter 30)**

Recent studies have shown that several small ornithischian dinosaurs which were once considered to be primitive ornithopods do not actually belong to that group. Instead, the dinosaurs in this list are members of Neornithischia ("new ornithischians": the larger group that contains Ornithopoda and Marginocephalia), but are not true ornithopods or true marginocephalians.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Agilisaurus</i>	agile reptile	Middle Jurassic	(167.7-161.2 MYA)	5.6 ft (1.7 m)	Turkey	China	Long considered a primitive ornithopod; known from a nearly complete skeleton.
* <i>Albalophosaurus</i>	white crest reptile	Early Cretaceous	(140.2-130 MYA)	5.6 ft (1.7 m)?	Turkey?	Japan	Only a few parts of the skull and skeleton are known. Uncertain if it is a ceratopsian, an ornithopod, or some other kind of neornithischian. Its name honors the snow-capped peak of Mount Hakusan near where it was found.
<i>Alocodon</i>	furrowed tooth	Middle Jurassic	(164.7-161.2 MYA)	?	Turkey?	Portugal	Known only from teeth.
<i>Ferganocephale</i>	Fergana Valley [Kyrgyzstan] head	Middle Jurassic	(164.7-161.2 MYA)	?	Chicken?	Kyrgyzstan	Known only from teeth, originally considered to be from a pachycephalosaur.
<i>Gongbusaurus</i>	Ministry of Public Works reptile	Late Jurassic	(165.7-161.2 MYA)	4.9 ft (1.5 m)	Beaver	China	May actually be a primitive ornithopod, but some " <i>Gongbusaurus</i> " teeth might be from a primitive stegosaurian.
<i>Hexinlusaurus</i>	[Chinese paleontologist] He Xin Lu's reptile	Middle Jurassic	(167.7-161.2 MYA)	5.9 ft (1.8 m)	Beaver	China	Known from nearly complete skeletons. Long thought to be a primitive ornithopod.
* <i>Nanosaurus</i>	tiny reptile	Late Jurassic	(155.7-150.8 MYA)	2.6 ft (80 cm)?	Chicken?	Wyoming	Known from very incomplete material; possibly the same as either <i>Othniella</i> or <i>Othnielosaurus</i> .

<i>Othnielia</i>	for [American paleontologist] Othniel [Charles Marsh]	Late Jurassic	(155.7-150.8 MYA)	2.6 ft (80 cm)?	Chicken?	Colorado	The best skeletons once considered to be from <i>Othnielia</i> are now regarded as the newly named " <i>Othnielosaurus</i> ." <i>Othnielia</i> proper is restricted to a femur (thigh bone).
* <i>Othnielosaurus</i>	[American paleontologist] Othniel [Charles Marsh]'s reptile	Late Jurassic	(155.7-150.8 MYA)	4.6 ft (1.4 m)	Turkey	Utah, Wyoming	The most common small dinosaur from the Late Jurassic of North America. Once considered specimens of <i>Othnielia</i> .
<i>Phyllodon</i>	leaf tooth	Late Jurassic	(155.7-150.8 MYA)	4.6 ft (1.4 m)	Turkey	Portugal	Known only from a partial jaw and teeth. Similar to <i>Drinker</i> .
<i>Stormbergia</i>	for the Stormberg Group	Early Jurassic	(196.5-183 MYA)	6.6 ft (2 m)	Wolf	Lesotho	Named in 2005; a bigger relative of <i>Lesothosaurus</i> . In fact, this may be no more than an adult <i>Lesothosaurus</i> .
<i>Xiaosaurus</i>	dawn reptile	Middle Jurassic	(167.7-161.2 MYA)	3.3 ft (1 m)	Turkey	China	May be a very primitive ornithopod.
Not yet officially named		Early Cretaceous	(118-110MYA)	?	?	Maryland	Known only from isolated teeth; possibly a ceratopsian.

**Primitive Ornithopods—Early Beaked Dinosaurs (Chapter 30)**

Ornithopoda was a very diverse group of ornithischians. Early ornithopods were all two-legged. The following dinosaurs are not members of either the primitive changchunsaur and zephyrosaur, the larger thescelosaurids, or the advanced Iguanodontia. Collectively, the dinosaurs in this list plus the changchunsaur, zephyrosaur, and thescelosaurids were once called "hypsilophodonts."

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Atlascopcosaurus</i>	Atlas Copco [company that makes drilling tools] reptile	Early Cretaceous	(118-110 MYA)	6.6 ft (2 m)	Beaver	Australia	Similar in some ways to <i>Zephyrosaurus</i> , but in other features to the much larger <i>Muttaborrasaurus</i> .
<i>Drinker</i>	for [American paleontologist Edward] Drinker [Cope]	Late Jurassic	(155.7-150.8 MYA)	6.6 ft (2 m)	Beaver	Wyoming	Similar to <i>Othnielia</i> .
<i>Eucercosaurus</i>	good-tailed reptile	Early Cretaceous	(112-99.6 MYA)	?	?	England	Once thought to be an ankylosaur.
<i>Fulgurotherium</i>	Lightning Ridge [Australia] beast	Early Cretaceous	(118-110MYA)	6.6 ft (2 m)	Beaver	Australia	Many bones have been lumped under this name; difficult to sort out how many species are really represented by these fossils.
<i>Gasparinisaura</i>	[Argentine paleontologist Zulma B.] Gasparini's reptile	Late Cretaceous	(83-78 MYA)	2.1 ft (65 cm)	Chicken	Argentina	Over fifteen individuals are known, including nearly complete skeletons.
<i>Hypsilophodon</i>	Hypsilophus [old scientific name for a modern iguana] tooth	Early Cretaceous	(130-125 MYA)	5.9 ft (1.8 m)	Beaver	England	Known from many skeletons, including juveniles.
<i>Leaellynasaura</i>	Leaellyn [Rich]'s reptile	Early Cretaceous	(118-110 MYA)	3 ft (90 cm)	Turkey	Australia	Large-eyed <i>Hypsilophodon</i> -like dinosaur. It is possible that this (and some of the other Australian small ornithischians) are not ornithopods, but are part of an earlier branch of Ornithischia. New not-yet published specimens suggest that it had an exceedingly long tail.
<i>Notohypsilophodon</i>	southern <i>Hypsilophodon</i>	Late Cretaceous	(99.6-93.5 MYA)	?	?	Argentina	One of relatively few South American ornithopods.
<i>Qantassaurus</i>	Qantas [Airways] reptile	Early Cretaceous	(112-99.6 MYA)	4.6 ft (1.4 m)?	Turkey	Australia	Jawbones and teeth show some similarities to the rhabdodontids.
<i>Siluosaurus</i>	Silk Road reptile	Early Cretaceous	(130-125 MYA)	4.6 f (1.4 m)?	Turkey	China	Known only from teeth.
<i>Yandusaurus</i>	Salt Capital reptile	Late Jurassic	(161.2-155.7 MYA)	4.9 ft (1.5 m)	Turkey	China	Known from relatively complete, but not yet fully described, fossils. One of the most primitive ornithopods.
* <i>Yueosaurus</i>	Yue [ancient name for Zhejiang Province] reptile	Early to Late Cretaceous	(125-93.5 MYA)	5.9 ft (1.8 m)	Beaver	China	Known from a relatively good skeleton but poorly dated. It may prove to be a changchunsaur.
No official genus name; formerly " <i>Hypsilophodon</i> " <i>welandi</i> .		Early Cretaceous	(130-125 MYA)	5.9 ft (1.8 m)?	Beaver	South Dakota	Fossils originally considered as being from a U.S. species of <i>Hypsilophodon</i> .

**\*\* Changchunsaur—Primitive Asian Beaked Dinosaurs (Chapter 30)**

A set of dinosaurs from the Cretaceous of Asia seem to form a group.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Changchunsaurus</i>	Changchun City [China] reptile	Early Cretaceous	(125-112 MYA)	13.1 ft (4 m)?	Sheep?	China	Skull is similar to <i>Thescelosaurus</i> .
* <i>Haya</i>	for Hayagriva [a Hindu god with a horse's head]	Late Cretaceous	(85.8-83.5 MYA)	6 ft (1.8 m)	Beaver	China	Known from bones of several individuals.
<i>Jeholosaurus</i>	Jehol Group reptile	Early Cretaceous	(125-120 MYA)	2.6 ft (80 cm)	Chicken	China	May only be a baby of a larger ornithopod. Currently one of the most primitive known ornithopods.

**\*\* Zephyrosaur—Burrowing Beaked Dinosaurs (Chapter 30)**

A set of dinosaurs from the mid-to-Late Cretaceous of North America seem to form a group. This group seems to have been burrowers, something like dinosaurian rabbits.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Koreanosaurus</i>	Korean reptile	Late Cretaceous	(85.8-70.6 MYA)	6.8 ft (2.1 m)	Wolf	Korea	Korea's first named ornithischian dinosaur. Burrows from <i>Koreanosaurus</i> are known.
<i>Orodromeus</i>	mountain runner	Late Cretaceous	(80-72.8 MYA)	8.2 ft (2.5 m)	Wolf	Montana	Several individuals are known, although what were once thought to be <i>Orodromeus</i> nests and eggs are really from troodontids.

* <i>Oryctodromeus</i>	digging runner	Late Cretaceous	(99.6-93.5 MYA)	6.8 ft (2.1 m)	Wolf	Montana	The first dinosaur of the Mesozoic confirmed to have made burrows.
<i>Zephyrosaurus</i>	Zephyr [Greek god of the west wind] reptile	Early Cretaceous	(118-110 MYA)	5.9 ft (1.8 m)	Beaver	Wyoming	Known from a few partial skeletons and skulls.

**\*\* Thescelosaurids—Last Primitive Beaked Dinosaurs (Chapter 30)**

Thescelosauridae is a group of large "hypsilophodont"-type ornithopods from the Late Cretaceous of North America.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Parksosaurus</i>	[Canadian paleontologist William Arthur] Park's reptile	Late Cretaceous	(72.8-66.8 MYA)	8.2 ft (2.5 m)	Wolf	Alberta	A close relative of <i>Thescelosaurus</i> .
<i>Thescelosaurus</i>	wonder reptile	Late Cretaceous	(66.8-65.5 MYA)	13.1 ft (4 m)?	Sheep	Colorado, Montana, South Dakota, Wyoming; Alberta, Saskatchewan	Known from some very complete skeletons, including one (nicknamed "Willo") that preserves soft tissues. The specimens previously called " <i>Bugensaura</i> " are now regarded as belonging to <i>Thescelosaurus</i> .

**Primitive Iguanodontians—Early Advanced Beaked Dinosaurs (Chapter 31)**

The iguanodontians were generally larger and more heavily built than more primitive ornithopods. They were among the most common plant-eating dinosaurs of the Early Cretaceous Epoch. The following genera are iguanodontians, but not members of Rhabdodontidae, Dryosauridae, Camptosauridae, or Styracosterna.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Anabisetia</i>	for [Argentine archaeologist] Ana Biset	Late Cretaceous	(94-91 MYA)	6.8 ft (2.1 m)	Wolf	Argentina	One of the most primitive iguanodontians.
* <i>Bolong</i>	Bo [Hai-Chen] and Bo's [Xue, the discoverers of the dinosaur] dragon	Early Cretaceous	(125-121 MYA)	?	?	China	A very primitive iguanodontian.
* <i>Macrogyphosaurus</i>	big enigmatic reptile	Late Cretaceous	(89.3-85.8 MYA)	19.7 ft (6 m)	Horse	Argentina	A close relative of <i>Talenkauen</i> .
<i>Muttaborrasaurus</i>	Muttaborra [Australia] reptile	Early Cretaceous	(112-99.6 MYA)	29.5 ft (9 m)	Rhino	Australia	A big-nosed iguanodontian with rather powerful jaws. A recent study suggests it is related to the Rhabdodontidae.
<i>Talenkauen</i>	small skull	Late Cretaceous	(70.6-65.5 MYA)	13.1 ft (4 m)	Sheep	Argentina	Has some similarities with <i>Thescelosaurus</i> , but seems to be one of the most primitive iguanodontians.
<i>Tenontosaurus</i>	tendon reptile	Early Cretaceous	(118-110MYA)	23 ft (7 m)	Horse	Montana, Oklahoma, Texas, Utah, Wyoming, possibly Maryland	A well-known primitive iguanodontian with a particularly long and deep tail.

**Rhabdodontids—Advanced European Beaked Dinosaurs (Chapter 31)**

These were some of the more important medium-size plant-eaters of the end of the Age of Dinosaurs in Europe.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Mochlodon</i>	barred tooth	Late Cretaceous	(83.5-80 MYA)	14.8 ft (4.5 m)?	Lion?	Austria	Known from very incomplete material. May be the same dinosaur as <i>Rhabdodon</i> or <i>Zalmoxes</i> .
<i>Rhabdodon</i>	fluted tooth	Late Cretaceous	(70.6-65.5 MYA)	14.8 ft (4.5 m)	Lion	France; Spain	One of the more common ornithopods of Late Cretaceous Europe.
<i>Zalmoxes</i>	Zalmoxes [slave of Greek philosopher Pythagoras]	Late Cretaceous	(70.6-68.5 MYA)	14.8 ft (4.5 m)	Lion	Romania	A deep-snouted ornithopod, originally thought to be some kind of ceratopsian.

**\*\* Dryosaurids—Small Advanced Beaked Dinosaurs (Chapter 31)**

Dryosauridae includes some of the oldest known iguanodontians. All were bipedal. Many were once considered to be types of "hypsilophodonts."

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Callovosaurus</i>	Callovian [Age] reptile	Middle Jurassic	(164.7-161.2 MYA)	?	Lion?	England	Known from an incomplete femur. At present, the oldest known iguanodontian.
<i>Dryosaurus</i>	tree reptile	Late Jurassic	(155.7-150.8 MYA)	9.8 ft (3 m)	Sheep	Wyoming, Colorado, Utah	The most common small-bodied ornithopod of Late Jurassic western North America.
* <i>Dysalotosaurus</i>	uncatchable reptile	Late Jurassic	(155.7-150.8 MYA)	9.8 ft (3 m)	Sheep	Tanzania	Previously considered an African species of <i>Dryosaurus</i> . Its name reflects the fact that it was fast, but also honors German General Paul Emil Lettow-Vorbeck, who led many raids against the British in eastern Africa during World War I, but whom the British could never catch.
* <i>Elrhazosaurus</i>	Elrhaz [Formation] reptile	Early Cretaceous	(125-112 MYA)	9.8 ft (3 m)	Sheep	Niger	Originally considered a species of <i>Valdosaurus</i> .
<i>Kangnasaurus</i>	Kangna [South Africa] reptile	Early Cretaceous	(time very uncertain)	?	?	South Africa	Very poorly known, but possibly a <i>Dryosaurus</i> relative.
<i>Valdosaurus</i>	reptile of the Wealden Group	Early Cretaceous	(130-125 MYA)	9.8 ft (3 m)	Sheep	England; Romania	Very similar to <i>Dryosaurus</i> .

**\*\* Camptosaurids—Medium-Sized Advanced Beaked Dinosaurs (Chapter 31)**

Camptosauridae--*Camptosaurus* and its closest relatives--were medium-sized iguanodontians in the middle of the Mesozoic. They were close relatives of the styracosternans. The most recent studies suggest this is not a natural group, but instead that some camptosaurus were more closely related to *Iguanodonta* and its relatives than to *Camptosaurus* proper.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Bihariosaurus</i>	Bihor [Romania] reptile	Early Cretaceous	(145.5-130 MYA)	9.8 ft (3 m)?	Sheep?	Romania	A <i>Camptosaurus</i> -like dinosaur.
<i>Camptosaurus</i>	flexible [back] reptile	Late Jurassic	(155.7-150.8 MYA)	23 ft (7 m)	Rhino	Colorado, Oklahoma, Utah, Wyoming	Known from several good skeletons, from babies to large adults. New discoveries show that it had a pointier snout than shown in the book.
<i>Cumnor</i>	from Cumnor [England]	Late Jurassic	(150.8-145.5 MYA)	16.4 ft (5 m)	Lion	England	Sometimes considered a species of <i>Camptosaurus</i> . May actually be a primitive styracosternan (like <i>Owenodon</i> ) rather than a camptosaurid.
<i>Draconyx</i>	dragon claw	Late Jurassic	(152-148 MYA)	19.7 ft (6 m)	Horse	Portugal	Known from only a partial skeleton. Similar to <i>Camptosaurus</i> .
* <i>Osmakasaurus</i>	canyon reptile	Early Cretaceous	(140.2-136.4 MYA)	19.7 ft (6 m)	Horse	South Dakota	Formerly called " <i>Camptosaurus depressus</i> ".
* <i>Uteodon</i>	Ute [people] tooth	Late Jurassic	(155.7-150.8 MYA)	19.7 ft (6 m)	Horse	Utah	Formerly considered a species of <i>Camptosaurus</i> .

**\*\* Primitive Styracosternans—Advanced Beaked Dinosaurs with "Swiss Army Hands" (Chapter 31)**

Styracosterna is the subgroup of Iguanodontia made up of Hadrosauridae and all dinosaurs more closely related to hadrosaurids than to camptosaurids. These primitive styracosternans had the "Swiss Army Hand".

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Altirhinus</i>	high nose	Early Cretaceous	(120-112 MYA)	26.2 ft (8 m)	Rhino	Mongolia	A large, big-nosed iguanodontian, once considered as belonging to <i>Iguanodon</i> itself.
^ <i>Barilium</i>	heavy ilium	Early Cretaceous	(140.2-136.4 MYA)	19.7 ft (6 m)?	Horse?	England	Formerly considered a species of <i>Iguanodon</i> ( <i>Iguanodon dawsoni</i> ). Accidentally also named " <i>Torilion</i> ", but that name was published shortly after <i>Barilium</i> . Includes specimens previously called " <i>Kukufeldia</i> " and " <i>Sellacoxa</i> ".
* <i>Cedrorestes</i>	Cedar Mountain [Formation] dweller	Early Cretaceous	(130-125 MYA)	19.7 ft (6 m)?	Horse?	Utah	Known from the hips and legs. Once thought to be very close to the origin of the hadrosaurians, but may be much more primitive.
* <i>Dakotadon</i>	Dakota [Formation] reptile	Early Cretaceous	(130-125 MYA)	19.7 ft (6 m)?	Horse?	South Dakota	Previously considered a North American species of <i>Iguanodon</i> .
* <i>Delapparentia</i>	for [French paleontologist Albert-Felix] de Lapparent	Early Cretaceous	(130-125 MYA)	23.1 ft (7 m)?	Rhino?	Spain	A specimen originally considered " <i>Iguanodon</i> ", but additional study revealed it to have distinctive features.
<i>Eolambia</i>	dawn lambeosaurine	Early to Late Cretaceous	(102-98 MYA)	20 ft (6.1 m)	Rhino	Utah	Once thought to be the oldest lambeosaurine or an early hadrosaurid (which is what I considered it in my book). Several skeletons are known. New studies show that it is closely related to <i>Altirhinus</i> and the species currently called " <i>Probactrosaurus</i> " <i>maozongensis</i> .
<i>Fukuisaurus</i>	Fukui Prefecture [Japan] reptile	Early Cretaceous	(136.4-125 MYA)	19.7 ft (6 m)	Horse	Japan	An iguanodontian with a relatively solid skull.
* <i>Hippodraco</i>	horse dragon	Early Cretaceous	(130-125 MYA)	14.9 ft (4.5 m)	Grizzly bear	Utah	A relatively primitive and small styracosternan, fairly lightly built.
^ <i>Hypselospinus</i>	tall spined	Early Cretaceous	(140.2-136.4 MYA)	19.7 ft (6 m)?	Horse?	England	Not yet fully described. A tall-spined iguanodontian, formerly considered a species of <i>Iguanodon</i> ( <i>Iguanodon fittoni</i> ). May be the same as " <i>Iguanodon</i> " <i>hollingtonensis</i> (which was found in the same rocks). Accidentally also named " <i>Wadhurstia</i> ", but that name was published shortly after <i>Hypselospinus</i> .
* <i>Iguanacolossus</i>	colossal iguana	Early Cretaceous	(130-125 MYA)	29.5 ft (9 m)	Rhino	Utah	A very large iguanodontian.
<i>Iguanodon</i>	iguana tooth	Early Cretaceous	(130-120 MYA)	42.7 ft (13 m)	Elephant	Belgium; possibly England; France; Spain; Germany; Portugal; Mongolia	One of the best-studied dinosaurs! Used to contain many more species, but is now restricted to the single large species best known from a quarry in Belgium.
<i>Lanzhousaurus</i>	Lanzhou [China] reptile	Early Cretaceous	(130-100 MYA)	32.8 ft (10 m)	Rhino	China	Unlike most iguanodontians, had only a few enormous teeth (the biggest of any herbivorous dinosaur) rather than many small teeth.
<i>Lurdusaurus</i>	heavy reptile	Early Cretaceous	(125-112 MYA)	29.5 ft (9 m)	Rhino	Niger	A squat, heavily built iguanodontian.
* <i>Mantellisaurus</i>	[early paleontologists Dr. Gideon & Mrs. Mary Ann] Mantells' reptile	Early Cretaceous	(125-120 MYA)	26.2 ft (8 m)	Rhino	England	Previously considered a slender species of <i>Iguanodon</i> . Includes individuals once called " <i>Dollodon</i> " and " <i>Proplanicoxa</i> ".
<i>Ouranosaurus</i>	brave reptile [also monitor reptile]	Early Cretaceous	(125-112 MYA)	19.7 ft (6 m)	Rhino	Niger	A fin-backed, slender iguanodontian.
^ <i>Owenodon</i>	[English paleontologist and namer of Dinosauria Sir Richard] Owen's tooth	Early Cretaceous	(145.5-140.2 MYA)	23 ft (7 m)?	Rhino	England	Originally thought to be a new species of <i>Iguanodon</i> ( <i>Iguanodon hoggi</i> ), then to be a camptosaurid (and possibly the same as <i>Cumnor</i> and/or <i>Camptosaurus</i> ).
<i>Planicoxa</i>	flat hip bone	Early Cretaceous	(118-110 MYA)	?	?	Utah	A wide-hipped iguanodontian.

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

* <i>Ratchasimasaurus</i>	[Changwat Nakhon] Ratchasima [locality] reptile	Early Cretaceous	(125-112 MYA)	?	?	Thailand	Known from a lower jaw with a mixture of primitive and specialized features
* <i>Theiophytalia</i>	garden of the gods [name of the park in Colorado where it was found]	Early Cretaceous	(118-110MYA)	19.7 ft (6 m)	Horse	Colorado	The most famous skull once thought to come from <i>Camptosaurus</i> (and the basis for many illustrations, including the ones in the book!) turns out to be from this different, and much younger, dinosaur.
* No official genus name; formerly " <i>Iguanodon</i> " <i>hollingtonensis</i>		Early Cretaceous	(140.2-136.4 MYA)	29.5 ft (9 m)?	Rhino?	England	A large early relative of <i>Iguanodon</i> . May be a specimen of <i>Hypselospinus</i> .
No official genus name; formerly " <i>Iguanodon</i> " <i>ottingeri</i>		Early Cretaceous	(130-125 MYA)	23 ft (7 m)?	Rhino?	Utah	Not yet fully described. A tall-spined iguanodontian.
* No official genus name; formerly " <i>Probactrosaurus</i> " <i>maozongensis</i>		Early Cretaceous	(130-125 MYA)	29.5 ft (9 m)?	Rhino?	China	Originally considered an early species of the primitive hadrosaurian <i>Probactrosaurus</i> , new studies suggest it is a close relative of <i>Altirhinus</i> and <i>Eolambia</i> .

**Primitive Hadrosaurs—Early Duckbilled Dinosaurs (Chapter 32)**

Hadrosauria—duckbilled dinosaurs—was one of the most successful of all plant-eating dinosaur groups. The following are hadrosaurians that are not part of the more specialized Hadrosauridae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Amtosaurus</i>	Amtgay [Mongolia] reptile	Late Cretaceous	(99.6-85.8 MYA)	?	?	Mongolia	Known only from part of a braincase. First thought to be an ankylosaurid!
<i>Bactrosaurus</i>	club[-spined] reptile	Late Cretaceous	(99.6-85.8 MYA)	20 ft (6.1 m)	Rhino	Mongolia	Once considered a primitive lambeosaurine.
<i>Equijubus</i>	horse mane	Early to Late Cretaceous	(102-98 MYA)	20 ft (6.1 m)	Rhino	China	Similar to <i>Altirhinus</i> (except without as deep a nose) and <i>Jinzhousaurus</i> .
* <i>Glishades</i>	concealed in mud	Late Cretaceous	(80-72.8 MYA)	18.1 ft (5.5 m)?	Horse?	Montana	Apparently closely related to <i>Bactrosaurus</i> , an amazingly primitive hadrosaurian for its time and place (given that it lived alongside much more advanced true hadrosaurids).
* <i>Jeyawati</i>	grinding tooth	Late Cretaceous	(93.5-89.3 MYA)	18.1 ft (5.5 m)	Horse	New Mexico	Name is in the Native American Zuni language, and is pronounced "HEY-a-WATT-ee".
* <i>Jintasaurus</i>	Golden Temple [County] reptile	Early Cretaceous	(112-99.6 MYA)	18.1 ft (5.5 m)?	Horse?	China	Known from the back of a skull.
<i>Jinzhousaurus</i>	Jinzhou [China] reptile	Early Cretaceous	(125-120 MYA)	32.8 ft (10 m)	Rhino	China	One of the most primitive hadrosauroids.
* <i>Levnesovia</i>	[Russian paleontologist] Lev Nesov	Late Cretaceous	(93.5-89.3 MYA)	20 ft (6.1 m)	Rhino	Uzbekistan	The name honors a paleontologist who made many fossil discoveries in central Asia.
<i>Nanyangosaurus</i>	Nanyang City [China] reptile	Early Cretaceous	(112-99.6 MYA)	20 ft (6.1 m)	Rhino	China	Known from a skeleton lacking a skull. Very close to the ancestors of the true hadrosaurids.
<i>Penelopognathus</i>	wild-duck jaws	Early Cretaceous	(112-99.6 MYA)	20 ft (6.1 m)	Rhino	Mongolia	Known from long, slender jaws.
<i>Probactrosaurus</i>	before <i>Bactrosaurus</i>	Early Cretaceous	(136.4-125 MYA)	11.5 ft (3.5 m)	Lion	China	A rather unspecialized early member of the hadrosaurid group.
<i>Protohadros</i>	first hadrosaurid	Late Cretaceous	(99.6-93.5 MYA)	23 ft (7 m)	Rhino	Texas	A deep-chinned primitive hadrosaurid, nicknamed the "Jay Leno dinosaur" (after that TV host's big chin).
* <i>Siamodon</i>	Siam [old name for Thailand] tooth	Early Cretaceous	(125-112 MYA)	?	Horse?	Thailand	Known only from a jawbone, braincase, and tooth.
<i>Shuangmiaosaurus</i>	Shuangmiao Village [China] reptile	Late Cretaceous	(99.6-89.3 MYA)	?	?	China	Known from a skull. Very close to true hadrosaurids.
* <i>Xuwulong</i>	Xu Wu [nickname of Chinese geologist Wang Yue-lun] dragon	Early Cretaceous	(125-99.6 MYA)	23 ft (7 m)	Rhino	China	A nearly complete skeleton is known. One of the most primitive hadrosaurians.
No official genus name; formerly " <i>Iguanodon</i> " <i>hilli</i>		Late Cretaceous	(99.6-93.5 MYA)	?	?	England	Known only from an incomplete tooth.
No official genus name; formerly " <i>Trachodon</i> " <i>cantabrigiensis</i>		Early Cretaceous	(112-99.6 MYA)	?	?	England	Known only from a tooth.

**Primitive Hadrosaurids—Early Specialized Duckbilled Dinosaurs (Chapter 32)**

These duckbills are part of the specialized group Hadrosauridae but are not members of the crested Lambeosaurinae or the broad-billed Saurolophinae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Arkharavia</i>	Arkharra [Village in Russia] road reptile	Late Cretaceous	(70.6-65.5 MYA)	?	?	Russia	Only a few vertebrae are known. Initially considered a <i>Chubutisaurus</i> -like titanosaur.
<i>Claosaurus</i>	broken reptile	Late Cretaceous	(87-82 MYA)	12.1 ft (3.7 m)	Lion	Kansas	A primitive hadrosaurid known from a nearly complete skeleton. Unfortunately, the skull was missing when it was collected.
<i>Gilmoresaurus</i>	[American paleontologist Charles Whitney] Gilmore's reptile	Late Cretaceous	(99.6-85.8 MYA)	26.2 ft (8 m)	Rhino	China	An early slender hadrosaurid.

<i>Hadrosaurus</i>	heavy reptile	Late Cretaceous	(83.5-80MYA)	26.2 ft (8 m)?	Rhino	New Jersey	The first-discovered duckbill, and the dinosaur skeleton that showed at least some dinosaurs walked on their hind legs. Once thought to be more closely related to the Saurolophinae (at the time called "Hadrosaurinae") than to the Lambeosaurinae, but now seems to have branched off before the split between those two advanced groups.
<i>Hypsibema</i>	high step	Late Cretaceous	(83.5-70.6 MYA)	49.2 ft (15 m)?	Two elephants	North Carolina	A gigantic hadrosaurid; sadly, known only from a few isolated bones.
* <i>Koutalisaurus</i>	spoon lizard	Late Cretaceous	(70.6-65.5 MYA)	26.2 ft (8 m)?	Rhino?	Spain	Bones of this dinosaur were originally thought to be from <i>Pararhabdodon</i> . A hadrosaurid, but not certain if it is a lambeosaurine or saurolophine.
<i>Lophorhothon</i>	crested nose	Late Cretaceous	(83.5-70.6 MYA)	26.2 ft (8 m)	Rhino	Alabama and North Carolina	Sometimes considered a <i>Saurolophus</i> -like saurolophine, but most recent studies show it to be a primitive hadrosaurid.
<i>Mandschurosaurus</i>	Manchuria [China] reptile	Late Cretaceous	(70.6-68.5 MYA)	?	?	China; Russia	A large hadrosaurid from Asia; unfortunately, the skull is not yet known.
* <i>Ornithotarsus</i>	bird ankle	Late Cretaceous	(83.5-70.6 MYA)	39.6 ft (12 m)?	Elephant	New Jersey	A very large hadrosaurid, not known from many bones.
<i>Parrosaurus</i>	[American zoologist Albert Eide] Parr's reptile	Late Cretaceous	(70.6-68.5 MYA)	49.2 ft (15 m)?	Two elephants?	Missouri	A gigantic hadrosaurid, known from tail bones and a partial jaw so big that they were originally thought to come from a sauropod.
<i>Tanuis</i>	for [Chinese geologist Xi Zhou] Tan	Late Cretaceous	(70.6-68.5 MYA)	26.2 ft (8 m)?	Rhino	China	Known only from fragmentary specimens; once thought to be either a saurolophine or lambeosaurine, but now thought most likely to be a more primitive form.
<i>Telmatosaurus</i>	marsh reptile	Late Cretaceous	(70.6-65.5 MYA)	16.4 ft (5 m)	Grizzly bear	Romania; France; Spain	A primitive hadrosaurid known from across Late Cretaceous Europe.
^ <i>Tethyshadros</i>	hadrosaurid of the Tethys [the ancient ocean, of which the modern Mediterranean is one of the last remains]	Late Cretaceous	(72.8-66.8 MYA)	13.2 ft (4 m)	Grizzly bear	Italy	A primitive hadrosaurid. Known from a complete skeleton (the most complete ornithischian skeleton from Italy). This fossil was nicknamed 'Antonio'.

#### \*\* Primitive Lambeosaurines—Hollow-Crested Duckbilled Dinosaurs (Chapter 32)

Most of the species in Lambeosaurinae—one of the two major groups of Hadrosauridae—had a hollow crest formed by the nasal passages. The lambeosaurines in this list do not clearly belong to the tube-crested Parasaurolophini or helmet-crested Corythosaurini subgroups.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Angulomastacator</i>	bend chewer	Late Cretaceous	(80-72.8 MYA)	26.2 ft (8 m)?	Rhino?	Texas	It's name both describes the bent shape of its jaws (the only parts currently known) and honors the Big Bend region of Texas, in which it was discovered.
<i>Aralosaurus</i>	Aral Sea reptile	Late Cretaceous	(93.5-85.8 MYA)	26.2 ft (8 m)	Rhino	Kazakhstan	Once considered a <i>Gryposaurus</i> -like saurolophine, but now seems to be the most primitive lambeosaurine. Lacks a crest.
* <i>Arenysaurus</i>	Aren [France] reptile	Late Cretaceous	(66.8-65.5 MYA)	26.2 ft (8 m)?	Rhino?	France	A primitive lambeosaurine.
* <i>Blasisaurus</i>	Blasi [site where it was found] reptile	Late Cretaceous	(66.8-65.5 MYA)	26.2 ft (8 m)?	Rhino?	Spain	Very similar to (and possibly the same as) <i>Arenysaurus</i> .
<i>Jaxartosaurus</i>	Jaxartes River [Kazakhstan] reptile	Late Cretaceous	(93.5-83.5 MYA)	29.5 ft (9 m)	Rhino	Kazakhstan	Known from juvenile material.
* <i>Nanningosaurus</i>	Nanning City [China] reptile	Late Cretaceous	(83.5-70.6 MYA)	26.2 ft (8 m)?	Rhino?	China	Incompletely known; the first lambeosaurine found in southern China.
<i>Pararhabdodon</i>	near <i>Rhabdodon</i>	Late Cretaceous	(70.6-65.5 MYA)	16.4 ft (5 m)	Horse	Spain; France?	Originally thought to be a rhabdodontid, now recognized as a close relative of <i>Tsintaosaurus</i> .
<i>Tsintaosaurus</i>	Qingdao City [China] reptile	Late Cretaceous	(70.6-68.5 MYA)	29.5 ft (9 m)	Rhino	China	Only part of its crest is preserved: instead of the tall narrow spike often shown, it probably had a broader crest something like <i>Olorotitan</i> .

#### \*\* Parasaurolophinins—Tube-Crested Duckbilled Dinosaurs (Chapter 32)

Parasaurolophini includes the tube-crested lambeosaurines.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Charonosaurus</i>	Charon's [Greek boatman of the River Styx] reptile	Late Cretaceous	(66.8-65.5 MYA)	32.8 ft (10 m)	Rhino	Russia	A <i>Parasaurolophus</i> -like form (although the complete crest is not actually known).
<i>Parasaurolophus</i>	near <i>Saurolophus</i>	Late Cretaceous	(80-72.8 MYA)	32.8 ft (10 m)	Rhino	New Mexico, Utah; Alberta	Had a tube-shaped crest.

#### \*\* Corythosaurinins—Helmet-Crested Duckbilled Dinosaurs (Chapter 32)

Corythosaurini (or Hypacrosaurini) are the helmet-crested lambeosaurines.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Amurosaurus</i>	Amur River [Siberia] reptile	Late Cretaceous	(66.8-65.5 MYA)	?	?	Russia	A late lambeosaurine. The shape of its crest isn't known. A close relative of <i>Sahaliyania</i> .
<i>Corythosaurus</i>	helmet reptile	Late Cretaceous	(80-72.8 MYA)	29.5 ft (9 m)	Rhino	Alberta	Known from many individual skeletons and skulls, including some with skin impressions.
<i>Hypacrosaurus</i>	near-topmost reptile	Late Cretaceous	(80-66.8 MYA)	32.8 ft (10 m)	Rhino	Alberta; Montana	Known from eggs and nests, juveniles through adults, and whole herds.
<i>Lambeosaurus</i>	[Canadian paleontologist Lawrence Morris] Lambe's reptile	Late Cretaceous	(80-72.8 MYA)	29.5 ft (9 m)	Rhino	Alberta	Lambeosaurus has a helmet crest with a spike sticking backwards from it.
<i>Nipponosaurus</i>	Japan reptile	Late Cretaceous	(85.8-80MYA)	26.2 ft (8 m)	Rhino	Russia (specifically Sakhalin Island, which was owned by Japan when <i>Nipponosaurus</i> was discovered and named)	A not-fully-grown specimen, very similar to North America's <i>Hypacrosaurus</i> .
<i>Olorotitan</i>	giant swan	Late Cretaceous	(66.8-65.5 MYA)	39.4 ft (12 m)	?	Russia	A giant Siberian lambeosaurine with a tube crest that flares out at the end.
* <i>Sahaliyania</i>	black	Late Cretaceous	(70.6-65.5 MYA)	26.2 ft (8 m)?	Rhino?	China	One of the last of the hadrosaurids of Asia.
* <i>Velafrons</i>	sail forehead	Late Cretaceous	(80-72.8 MYA)	26.2 ft (8 m)	Rhino	Mexico	Known from one of the most complete dinosaur skeletons ever found in Mexico.
* No official genus name; formerly " <i>Lambeosaurus</i> " <i>laticaudus</i>		Late Cretaceous	(80-72.8 MYA)	49.2 ft (15 m)	Two elephants	Mexico	This Mexican dinosaur (which has no skull, so we aren't certain if it is really from <i>Lambeosaurus</i> ) is one of the largest ornithischian fossils. May in fact belong to <i>Hypacrosaurus</i> .

#### \*\* Primitive Saurolophines—Broad-Snouted Duckbilled Dinosaurs (Chapter 32)

The Saurolophinae (once called "Hadrosaurinae") is one of the two major groups of hadrosaurids, or true duckbilled dinosaurs. The genera listed here do not clearly belong in the better understood subgroups Gryposaurini, Brachylophosaurini, Saurolophini, or Edmontosaurini.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Barsboldia</i>	for [Mongolian paleontologist Rinchen] Barsbold	Late Cretaceous	(70.6-68.5 MYA)	32.8 ft (10 m)?	Rhino	Mongolia	Known only from the rear half of a skeleton.
* <i>Huaxiaosaurus</i>	Chinese reptile	Late Cretaceous	(83.5-70.6 MYA)	49.2 ft (15 m)?	Two elephants	China	Almost certainly the same dinosaur as <i>Shantungosaurus</i>
<i>Shantungosaurus</i>	Shandong Province [China] reptile	Late Cretaceous	(83.5-70.6 MYA)	49.2 ft (15 m)?	Two elephants	China	The largest known saurolophine, and until the discovery of <i>Zhuchengosaurus</i> , the largest known ornithischian. (In fact, <i>Zhuchengosaurus</i> may just be the adult of <i>Shantungosaurus</i> .) Considered by some to be an edmontosaurin, but most recent analyses show it to be a more primitive saurolophine.
* <i>Zhuchengosaurus</i>	Zhucheng City [China] reptile	Late Cretaceous	(83.5-70.6 MYA)	54.5 ft (16.6 m)	Three elephants	China	Known from several skeletons, this newly discovered primitive hadrosauroid is the largest ornithischian currently known. It may simply belong to <i>Shantungosaurus</i> .

#### \*\* Gryposaurinins—Broad-Snouted Duckbilled Dinosaurs (Chapter 32)

This particular sub-branch of Saurolophinae includes *Gryposaurus* and its kin. They typically have an "arched" or "hooked" snout shape.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Anasazisaurus</i>	Anasazi [Native American tribe] reptile	Late Cretaceous	(80-72.8 MYA)	?	Rhino	New Mexico	Known only from a partial skull. May be the same as <i>Kritosaurus</i> .
<i>Gryposaurus</i>	hook-nosed reptile	Late Cretaceous	(83.5-72.8 MYA)	27.9 ft (8.5 m)	Rhino	Alberta; Montana; Utah	A large-nosed saurolophine. Several species are known.
<i>Kritosaurus</i>	separated reptile	Late Cretaceous	(80-72.8 MYA)	29.5 ft (9 m)	Rhino	New Mexico	Some paleontologists regard it as the same dinosaur as <i>Gryposaurus</i> .
<i>Naashoibitosaurus</i>	Naashoibito Member [of the Kirtland Formation] reptile	Late Cretaceous	(80-72.8 MYA)	29.5 ft (9 m)	Rhino	New Mexico	Known only from a partial skull. May be the same as <i>Kritosaurus</i> .
<i>Secernosaurus</i>	separated reptile	Late Cretaceous	(72.8-66.8 MYA)	26.2 ft (8 m)?	Rhino	Argentina	A <i>Kritosaurus</i> - or <i>Gryposaurus</i> -like saurolophine, including specimens once called " <i>Kritosaurus australis</i> ". One of the few South American hadrosaurids.
^ <i>Willinakaqe</i>	southern duck mimic	Late Cretaceous	(80-66.8 MYA)	29.5 ft (9 m)	Rhino	Argentina	An Argentine hadrosaurid, closely related to <i>Secernosaurus</i> .
* <i>Wulagasaurus</i>	Wulaga [location in China where it was found] reptile	Late Cretaceous	(70.6-65.5 MYA)	26.2 ft (8 m)?	Rhino	China	From the same rocks as the lambeosaurine <i>Sahaliyania</i> .

**\*\* Brachylophosaurinins—Broad-Snouted Duckbilled Dinosaurs (Chapter 32)**

Brachylophosaurini (sometimes called "Maiasaurini") is a group of primitive, very broad-billed saurolophines.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Acristavus</i>	crestless grandfather	Late Cretaceous	(80-72.8 MYA)	27.9 ft (8.5 m)	Rhino	Montana	Older than <i>Maiasaura</i> and <i>Brachylophosaurus</i> , and possibly ancestral to both.
<i>Brachylophosaurus</i>	short-crested reptile	Late Cretaceous	(80-72.8 MYA)	27.9 ft (8.5 m)	Rhino	Alberta; Montana	Has a tall snout, but not as arched as that of <i>Gryposaurus</i> . A specimen called "Leonardo" is among the best preserved of all dinosaur fossils.
<i>Maiasaura</i>	good-mother reptile	Late Cretaceous	(80-72.8 MYA)	29.5 ft (9 m)	Rhino	Montana	Known from eggs, nests, embryos, hatchlings, and entire herds.

**\*\* Saurolophinins—Spike-Crested Broad-Snouted Duckbilled Dinosaurs (Chapter 32)**

Saurolophini is a group of saurolophines with nasal regions that swept back onto their foreheads, sometimes forming a solid backwards-pointing crest.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Kerberosaurus</i>	Cerberus [Greek three-headed watchdog of the underworld] reptile	Late Cretaceous	(66.8-65.5 MYA)	26.2 ft (8 m)?	Rhino	Russia	Not much is known about it, but it seems to be a flat-nosed form.
<i>Prosaurolophus</i>	before <i>Saurolophus</i>	Late Cretaceous	(80-72.8 MYA)	26.2 ft (8 m)	Rhino	Alberta; Montana	Known from many skeletons of varying ages.
<i>Saurolophus</i>	crested reptile	Late Cretaceous	(72.8-65.5 MYA)	39.4 ft (12 m)	Elephant	Alberta; California; Mongolia	Known from many skeletons, including some with skin impressions. Common in both Mongolia and Canada. Has a broad snout and a solid spike pointing backward from its head.
Not yet officially named		Late Cretaceous	(72-70.6 MYA)	36 ft (11 m)	Elephant	Mexico	A large <i>Kritosaurus</i> -like saurolophine (possibly just a new species of <i>Kritosaurus</i> or <i>Secernosaurus</i> ).

**\*\* Edmontosaurinins—Very Broad-Snouted Duckbilled Dinosaurs (Chapter 32)**

Edmontosaurini is a group of saurolophines with extremely expanded bills: the duckbilliest duckbills. Some regard these as just a single genus, *Edmontosaurus*.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Anatosaurus</i>	duck reptile	Late Cretaceous	(66.8-65.5 MYA)	39.4 ft (12 m)	Elephant	Saskatchewan; Montana, South Dakota, Wyoming, North Dakota	The most "duckbilled" of the duckbills. Often considered just a late surviving species of <i>Edmontosaurus</i> , but may indeed be separate, in which case this old name is used. The fully adult form was once called " <i>Anatotitan</i> " (giant duck).
<i>Edmontosaurus</i>	Edmonton [Formation] reptile	Late Cretaceous	(80-72.8 MYA)	39.4 ft (12 m)	Elephant	Alberta; Alaska, Colorado	Known from many good skulls and skeletons. Thought by some to contain the species listed here as the genus <i>Anatosaurus</i> .

**\*\* Primitive Pachycephalosaurs—Early Boneheaded Dinosaurs (Chapter 33)**

The dinosaurs of Pachycephalosauria, one of the two main branches of the ridge-headed Marginocephalia, had thickened skulls. The dinosaurs in this list lack the true dome that characterizes the more advanced Pachycephalosauridae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Goyocephale</i>	decorated head	Late Cretaceous	(85.8-70.6 MYA)	5.9 ft (1.8 m)	Beaver	Mongolia	Known from a relatively complete skull and skeleton. May be the juvenile of some other dome-headed pachycephalosaur.
<i>Peishansaurus</i>	North Mountain [China] reptile	Late Cretaceous	(83.5-80 MYA)	?	?	China	Known only from a partial skull. Might actually be from a juvenile ankylosaur.
<i>Stenopelix</i>	narrow pelvis	Early Cretaceous	(130-125 MYA)	4.9 ft (1.5 m)	Beaver	Germany	Known from a skeleton lacking a skull. It is either an early European pachycephalosaur or some other kind of marginocephalian. (In fact, the most recent studies place it as a ceratopsian related to <i>Yinlong</i> .)
<i>Wannanosaurus</i>	southern Anhui [China] reptile	Late Cretaceous	(70.6-68.5 MYA)	2 ft (60 cm)	Turkey	China	Known only from an incomplete juvenile specimen.

**\*\* Pachycephalosaurids—Domeheaded Dinosaurs (Chapter 33)**

The advanced pachycephalosaurs, the Pachycephalosauridae, have true domed skulls. Many specimens previously thought to be distinct genera are now considered the juveniles of pachycephalosaurids.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Alaskacephale</i>	Alaska head	Late Cretaceous	(72-70.6 MYA)	?	?	Alaska	Known only from a dome. Close to <i>Pachycephalosaurius</i> .
* <i>Amtocephale</i>	Amtgai [locality] head	Late Cretaceous	(85.8-83.5 MYA)	?	Beaver?	Mongolia	A small, early pachycephalosaur, known only from its dome.
<i>Colepiocephale</i>	knuckle head	Late Cretaceous	(80-72.8 MYA)	5.9 ft (1.8 m)	Wolf	Alberta	Once considered a species of <i>Stegoceras</i> .
<i>Dracorex</i>	dragon king	Late Cretaceous	(66.8-65.5 MYA)	7.9 ft (2.4 m)	Wolf	South Dakota	Almost certainly just a juvenile <i>Pachycephalosaurius</i> or <i>Stygimoloch</i> . Its full name, <i>D. hogwartsia</i> , honors the fictional Hogwarts Academy.
<i>Gravitholus</i>	heavy dome	Late Cretaceous	(80-72.8 MYA)	9.8 ft (3 m)?	Wolf?	Alberta	Known only from a dome.
<i>Hanssuesia</i>	for [Austrian-Canadian-American paleontologist] Hans-Dieter Sues	Late Cretaceous	(80-72.8 MYA)	7.9 ft (2.4 m)	Wolf	Alberta; Montana	Once considered a species of <i>Stegoceras</i> . Known from several skulls.
<i>Ornatolithus</i>	decorated dome	Late Cretaceous	(80-72.8 MYA)	6.6 ft (2 m)?	Wolf?	Alberta	Quite likely just a juvenile <i>Stegoceras</i> .

<i>Pachycephalosaurus</i>	thickheaded reptile	Late Cretaceous	(66.8-65.5 MYA)	23 ft (7 m)	Grizzly bear	Wyoming, Montana, South Dakota	The largest, and one of the last, pachycephalosaurs, with a very large dome and a long snout.
<i>Prenocephale</i>	sloping head	Late Cretaceous	(70.6-68.5 MYA)	7.9 ft (2.4 m)	Wolf	Mongolia	Known from an excellent skull. Some paleontologists think that <i>Sphaerolitholus</i> and <i>Tylocephale</i> are just species of <i>Prenocephale</i> . An excellent juvenile specimen was once considered its own genus, " <i>Homalocephale</i> ".
<i>Sphaerolitholus</i>	sphere dome	Late Cretaceous	(80-65.5 MYA)	7.9 ft (2.4 m)	Wolf	Montana, New Mexico	A round-domed pachycephalosaur very similar to <i>Prenocephale</i> .
<i>Stegoceras</i>	roof horn	Late Cretaceous	(80-72.8 MYA)	6.6 ft (2 m)	Wolf	Alberta; New Mexico	A relatively primitive round-domed pachycephalosaur.
<i>Stygimoloch</i>	demon of the Styx [river of the underworld in Greek mythology]	Late Cretaceous	(66.8-65.5 MYA)	9.8 ft (3 m)	Lion	Montana, Wyoming	A large, long-snouted pachycephalosaur, with large spikes at the rear of its head. A close relative of <i>Pachycephalosaurus</i> ; in fact, may simply be the "teenaged" form of <i>Pachycephalosaurus</i> .
* <i>Texacephale</i>	Texas head	Late Cretaceous	(80-72.8 MYA)	6.6 ft (2 m)	Wolf	Texas	Known only from some skull domes; quite possibly a southern species of <i>Stegoceras</i> .
<i>Tylocephale</i>	swelled head	Late Cretaceous	85.8-70.6 MYA)	7.9 ft (2.4 m)	Wolf	Mongolia	Known only from a partial skull, a close relative of <i>Prenocephale</i> .
No official genus name; formerly " <i>Troodon</i> " <i>bexelli</i>		Late Cretaceous	(75-70.6 MYA)	?	?	China	An advanced pachycephalosaur from China.
Not yet officially named		Late Cretaceous	(66.8-65.5 MYA)	7.9 ft (2.4 m)	Wolf	Montana, South Dakota	Nearly complete skulls and skeletons of what might be two new close relatives of <i>Stygimoloch</i> and <i>Pachycephalosaurus</i> , or just juveniles of the same, have been found.
Not yet officially named		Late Cretaceous	(80-72.8 MYA)	?	Chicken	Alberta	Not yet described. Known from small domes.

#### \*\* Chaoyangsaurids and Other Primitive Ceratopsians—Early Parrot-Beaked Dinosaurs (Chapter 34)

The earliest and most primitive members of Ceratopsia—the horned dinosaur group—including the Chaoyangsauridae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Chaoyangsaurus</i>	Chaoyang [China] reptile	Late Jurassic	(150.8-145.5 MYA)	2 ft (60 cm)?	Turkey	China	Known from the skull and other parts of the front end of a dinosaur. Closely related to <i>Xuanhuaceratops</i> .
<i>Micropachycephalosaurus</i>	small <i>Pachycephalosaurus</i>	Late Cretaceous	(70.6-68.5 MYA)	1.6 ft (50 cm)	Turkey	China	Known only from an incomplete skull and pelvis. Despite the name, it is more likely a ceratopsian than a pachycephalosaur (which is what it was originally considered).
<i>Yinlong</i>	hidden dragon	Late Jurassic	(161.2-155.7 MYA)	9.8 ft (3 m)	Wolf	China	Known from many excellent skulls and skeletons.
* <i>Xuanhuaceratops</i>	Xuanhua District [China] horned face	Late Jurassic	(150.8-145.5 MYA)	2 ft (60 m)?	Turkey?	China	Closely related to <i>Chaoyangsaurus</i> .

#### \*\* Psittacosaurids—Parrot Dinosaurs (Chapter 34)

Psittacosauridae was an important group of Early Cretaceous Asian ceratopsians. These were mostly bipedal.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Hongshanosaurus</i>	Hongshan [ancient Chinese culture] reptile	Early Cretaceous	(125-120 MYA)	3.9 ft (1.2 m)?	Turkey	China	Known from juvenile and adult skulls. May actually be a species of <i>Psittacosaurus</i> .
<i>Psittacosaurus</i>	parrot reptile	Early Cretaceous	(140.2-99.6 MYA)	5.9 ft (1.8 m)	Beaver	China; Mongolia; Thailand?	Several species are known, some of which may eventually get their own genera. Known from hatchlings to adults. One of the best-studied dinosaurs.
No official genus name; formerly " <i>Psittacosaurus</i> " <i>sibiricus</i>		Early Cretaceous	(136.4-99.6 MYA)	4.9 ft (1.5 m)?	Beaver	Russia	Not yet well described. Similar to <i>Psittacosaurus</i> , but apparently with small horns.

#### Primitive Neoceratopsians—Early Frilled Dinosaurs (Chapter 34)

The following are frilled dinosaurs, but they are not members of Leptoceratopsidae, Protoceratopsidae, or Ceratopsidae.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Archaeoceratops</i>	ancient horned face	Early Cretaceous	(130-125 MYA)	4.9 ft (1.5 m)	Beaver	China	A bipedal, slender neoceratopsian.
<i>Asiaceratops</i>	Asia horned face	Early to Late Cretaceous	(102-98 MYA)	5.9 ft (1.8 m)	Beaver	Uzbekistan	Uncertain if this is a primitive neoceratopsian or a true leptoceratopsid.
<i>Auroraceratops</i>	dawn horned face	Early Cretaceous	(140.2-99.6 MYA)	?	Wolf	China	A rather lumpy-faced primitive neoceratopsian.
<i>Craspedodon</i>	bordered tooth	Late Cretaceous	(85.8-83.5 MYA)	?	?	Belgium	Known only from a tooth. Once considered an <i>Iguanodon</i> -like styracosternan.
* <i>Helioceratops</i>	sun horned face	Early to Late Cretaceous	(102-98 MYA)	4.3 ft (1.3 m)	Beaver	China	Similar to <i>Auroraceratops</i> and <i>Yamaceratops</i> .
* <i>Koreaceratops</i>	horned face of Korea	Early Cretaceous	(112-99.6 MYA)	4.3 ft (1.3 m)	Beaver	Korea	Known from the rear half of the body. The describers note the deep tail, and suggest this and other deep-tailed ceratopsians were aquatic. I'm not yet convinced...

<i>Kulceratops</i>	lake horned face	Early Cretaceous	(112-99.6 MYA)	?	?	Central Asia	Poorly described, and known only from jaw fragments. The describer didn't even clarify where in central Asia it was found!
<i>Liaoceratops</i>	Liaoning Province [China] horned face	Early Cretaceous	(125-120 MYA)	?	Beaver	China	A small, frilled ceratopsian known from both adult and juvenile skulls.
<i>Notoceratops</i>	southern ceratopsian	Late Cretaceous	(70.6-68.5 MYA)	?	?	Argentina	Known from a jaw fragment that might actually be from a hadrosaurid.
<i>Serendipaceratops</i>	Serendip [legendary name for Sri Lanka] horned face	Early Cretaceous	(118-110 MYA)	?	Turkey?	Australia	Known only from a forearm bone; may not even be a ceratopsian.
<i>Turanoceratops</i>	Turan [Persian for region of central Asia] horned face	Late Cretaceous	(70.6-65.5 MYA)	?	?	Kazakhstan	Known from horn cores and double-rooted teeth, suggesting that it was a <i>Zuniceratops</i> -like dinosaur or even a true ceratopsid.
* <i>Yamaceratops</i>	Yama [Tibetan God of the Dead] horned face	Early Cretaceous	(time very uncertain)	4.9 ft (1.5 m)	Beaver	Mongolia	Known from a partial skull and various isolated bones.
<i>Zuniceratops</i>	Zuni [Native American people] horned face	Late Cretaceous	(93.5-89.3 MYA)	11.5 ft (3.5 m)	Grizzly bear	New Mexico	Had brow horns but no nose horn.

**Leptoceratopsids—Small-Frilled Dinosaurs (Chapter 34)**

This is a group of neoceratopsians with relatively short frills.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Bainoceratops</i>	Bayn Dzak [site in Mongolia] horned face	Late Cretaceous	(75-70.6 MYA)	?	Beaver	Mongolia	Its vertebrae show that it is more like <i>Udanoceratops</i> and <i>Leptoceratops</i> than like <i>Protoceratops</i> .
* <i>Cerasinops</i>	cherry face	Late Cretaceous	(80-76.5 MYA)	5.9 ft (1.8 m)	Sheep	Montana	One specimen of this dinosaur was nicknamed "Cera" (pronounced "Sara").
* <i>Gryphognathus</i>	gryphon jaws	Late Cretaceous	(83.5-83.5 MYA)	?	Beaver	Alberta	Known only from a jaw.
<i>Leptoceratops</i>	small horned face	Late Cretaceous	(66.8-65.5 MYA)	5.9 ft (1.8 m)	Sheep	Alberta; Montana	The last small ceratopsian in North America.
* <i>Microceratus</i>	small horned	Late Cretaceous	(99.6-83.5 MYA)	2 ft (60 cm)?	Turkey?	Mongolia	Previously called " <i>Microceratops</i> ", and known only from very fragmentary fossils.
<i>Montanoceratops</i>	Montana horned face	Late Cretaceous	(72.8-66.8 MYA)	9.8 ft (3 m)	Lion	Montana	Once thought to have a horn on its nose, but that was a misplaced cheek horn.
<i>Prenoceratops</i>	sloping horned face	Late Cretaceous	(80-72.8 MYA)	9.8 ft (3 m)	Lion	Montana	Known from a herd of mostly juveniles.
<i>Udanoceratops</i>	Udan Sayr [Mongolia] horned face	Late Cretaceous	(85.8-70.6 MYA)	14.8 ft (4.5 m)	Grizzly bear	Mongolia	A large, possibly bipedal ceratopsian.
* <i>Unescoceratops</i>	United Nations Educational, Scientific, and Cultural Organization horned face	Late Cretaceous	(80-72.8 MYA)	?	Sheep	Alberta	A small leptoceratopsid, known only from a jaw.
* <i>Zhuchengceratops</i>	Zhucheng County [China] reptile	Late Cretaceous	(72.8-66.8 MYA)	6.6 ft (2 m)	Sheep	China	Similar to, but slightly larger than, <i>Leptoceratops</i> .

**\*\* Bagaceratopsids—Small-Horned, Lump-Nosed Frilled Dinosaurs (Chapter 34)**

Bagaceratopsidae contains Asian and European small frilled dinosaurs, some of which at least have short lumps or hornlets on their noses.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
* <i>Ajkaceratops</i>	Ajka [Village] horned face	Late Cretaceous	(85.8-83.5 MYA)	3.3 ft (1 m)	Beaver	Hungary	The first definite ceratopsian from Europe (although some isolated teeth may also represent European frilled dinosaurs). The name is pronounced "OI-ka-ser-a-tops".
<i>Bagaceratops</i>	little horned face	Late Cretaceous	(85.8-70.6 MYA)	3 ft (90 cm)	Turkey	Mongolia	Many specimens, including embryos, are known. Had a small nose horn.
<i>Breviceratops</i>	short horned face	Late Cretaceous	(85.8-70.6 MYA)	6.6 ft (2 m)	Wolf	Mongolia	May be the same as <i>Bagaceratops</i> .
* <i>Gobiceratops</i>	Gobi Desert horned face	Late Cretaceous	(85.8-70.6 MYA)	?	Chicken?	Mongolia	Known only from the 1.4 in (3.5 cm) long skull of a juvenile. Quite likely just a juvenile <i>Bagaceratops</i> .
<i>Lamaceratops</i>	monk horned face	Late Cretaceous	(85.8-70.6 MYA)	?	Wolf	Mongolia	Similar to <i>Bagaceratops</i> , it had a small nose horn.
<i>Magnirostris</i>	big snout	Late Cretaceous	(75-70.6 MYA)	?	Wolf	China	Had a large beak and small horns.
<i>Platyceratops</i>	flat horned face	Late Cretaceous	(85.8-70.6 MYA)	?	Wolf	Mongolia	Based on a single poorly preserved skull, quite likely just a specimen of <i>Bagaceratops</i> .

**Protoceratopsids—Deep-Tailed Frilled Dinosaurs (Chapter 34)**

Protoceratopsidae contains the four-legged Asian frilled dinosaurs with deep tails.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Graciliceratops</i>	slender horned face	Late Cretaceous	(99.6-83.5 MYA)	2 ft (60 cm)	Turkey	Mongolia	A slender, possibly bipedal dinosaur. Probably a juvenile.
<i>Protoceratops</i>	first horned face	Late Cretaceous	(85.8-70.6 MYA)	6.6 ft (2 m)	Lion	Mongolia; China	Probably the most common dinosaur found in the Late Cretaceous of Asia. Known from eggs, embryos, hatchlings, juveniles, and adults.

**Centrosaurines—Nose-Horned True Horned Dinosaurs (Chapter 35)**

Ceratopsidae—true horned dinosaurs—contains two major branches. Centrosaurinae includes species with deep snouts and many have large nose horns. All centrosaurines have at least one pair of spikes sticking out of the center of the back of the frill.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Achelousaurus</i>	Achelous [Greek river god] reptile	Late Cretaceous	(80-72.8 MYA)	19.7 ft (6 m)	Rhino	Montana	A close relative of <i>Pachyrhinosaurus</i> , it also has a lumpy nose and brow.
<i>Albertaceratops</i>	Alberta [Canada] horned face	Late Cretaceous	(80-72.8 MYA)	19.7 ft (6 m)	Rhino	Alberta; Montana	Named in 2007, it is the first centrosaurine known with longer brow horns than nose horn.
<i>Avaceratops</i>	[American fossil hunter] Ava [Cole]'s horned face	Late Cretaceous	(80-72.8 MYA)	8.2 ft (2.5 m)	Grizzly bear	Montana	First known from a juvenile specimen, but other fossils are now known. Some consider the fossils to be just from the juveniles of other centrosaurines. Others consider <i>Avaceratops</i> a unique species of centrosaurine. Still others think it might actually be the same dinosaur as <i>Ceratops</i> , and therefore possibly not a centrosaurine.
<i>Centrosaurus</i>	spur [frill] reptile	Late Cretaceous	(80-72.8 MYA)	18.7 ft (5.7 m)	Rhino	Alberta	Known from entire herds that died together, as well as nearly complete skeletons with skin impressions.
<sup>^</sup> <i>Diabloceratops</i>	devil horned face	Late Cretaceous	(83.5-76 MYA)	18 ft (5.5 m)	Rhino	Utah	The oldest known centrosaurine. Like <i>Albertaceratops</i> it had brow horns longer than its nose horn. The pair of spikes coming out of the back of its frill are spectacularly long.
<i>Einosaurus</i>	bison reptile	Late Cretaceous	(80-72.8 MYA)	19.7 ft (6m)	Rhino	Montana	A hook-horned centrosaurine.
<i>Pachyrhinosaurus</i>	thick-nosed reptile	Late Cretaceous	(80-66.8 MYA)	26.2 ft (8 m)	Rhino	Alaska; Alberta	Last, and largest, of the centrosaurines. Known from herds.
* <i>Rubeosaurus</i>	bramble reptile	Late Cretaceous	(80-72.8 MYA)	19.7 ft (6m)	Rhino	Montana	Previously considered a species of <i>Styracosaurus</i> , but now thought to be more closely related to <i>Einosaurus</i> . Has the largest nose horn of any dinosaur currently known.
* <i>Spinops</i>	spine face	Late Cretaceous	(80-72.8 MYA)	18 ft (5.5 m)?	Rhino	Alberta	Intermediate in form and age between <i>Centrosaurus</i> and <i>Styracosaurus</i> .
* <i>Sinoceratops</i>	Chinese horned face	Late Cretaceous	(72.8-66.8 MYA)	23 ft (7 m)	Rhino	China	The first definite Asian ceratopsid known to science ( <i>Turanoceratops</i> might be a ceratopsid, or it might be a more primitive neoceratopsian). Fairly large for a centrosaurine, and currently one of the most primitive known.
<i>Styracosaurus</i>	spike [frill] reptile	Late Cretaceous	(80-72.8 MYA)	18 ft (5.5 m)	Rhino	Alberta	Known from several good specimens. Distinctive because of the big spikes on its frill.
Not yet officially named		Late Cretaceous	(80-72.8 MYA)	18 ft (5.5 m)	Rhino	Utah	Another primitive centrosaurine from Utah, with extremely large forward-pointing brow horns.

**Chasmosaurines—Brow-Horned True Horned Dinosaurs (Chapter 35)**

Once called "ceratopsines", one of the two branches of Ceratopsidae—true horned dinosaurs. This group contains species with typically large brow horns and shallow, long snouts.

Name	Meaning	Age	Time	Length	Weight	Where found	Comments
<i>Agujaceratops</i>	Aguja [Formation] horned face	Late Cretaceous	(80-72.8 MYA)	23 ft (7 m)	Rhino	Texas	Once considered its own species of <i>Chasmosaurus</i> . Known from a herd.
<i>Anchiceratops</i>	intermediate [frill] horned face	Late Cretaceous	(80-72.8 MYA)	19.7 ft (6 m)	Rhino	Alberta	A relatively unspecialized chasmosaurine.
<i>Arrhinoceratops</i>	no-nose horned face	Late Cretaceous	(72.8-66.8 MYA)	23 ft (7 m)	Rhino	Alberta	It actually does have a nose horn, despite its name.
<i>Ceratops</i>	horned face	Late Cretaceous	(80-72.8 MYA)	8.2 ft (2.5 m)?	Grizzly bear?	Montana	Poorly known, it apparently had relatively small brow horns. It might not actually belong to Chasmosaurinae, but instead may be a primitive ceratopsid branching off before the Centrosaurinae-Chasmosaurinae division.
<i>Chasmosaurus</i>	wide-opening [frill] reptile	Late Cretaceous	(80-72.8 MYA)	23 ft (7 m)	Rhino	Alberta	At least three species are known, with different patterns of size and orientation of horns.
* <i>Coahuilaceratops</i>	Coahuila [State] horned face	Late Cretaceous	(80-72.8 MYA)	26.2 ft (8 m)	Rhino	Mexico	Close to the ancestry of <i>Triceratops</i> and the other giant chasmosaurines. Has the thickest and longest brow-horns of any ceratopsid.
* <i>Eotriceratops</i>	dawn <i>Triceratops</i>	Late Cretaceous	(70.6-68.5 MYA)	29.5 ft (9 m)	Elephant	Alberta	Known from a partial skull, this dinosaur might be directly ancestral to <i>Triceratops</i> .
* <i>Kosmoceratops</i>	decorated horned face	Late Cretaceous	(80-72.8 MYA)	16.5 ft (5 m)	Rhino	Utah	Has very large spikes on its frill for a chasmosaurine; those on the top of the frill fold over towards the front. Like <i>Utahceratops</i> its brow horns point sideways rather than forward.
* <i>Medusaceratops</i>	Medusa [monster from Greek mythology] horned face	Late Cretaceous	(80-72.8 MYA)	19.7 ft (6 m)	Rhino	Montana	Its bones were mixed up with those of <i>Albertaceratops</i> ; has some very broad projections at the top of its frill. One of the most primitive chasmosaurines.

\* New genus; \*\* New grouping; ^ New genus name for previously unnamed dinosaur

* <i>Mojoceratops</i>	love charm horned face	Late Cretaceous	(80-72.8 MYA)	23 ft (7 m)	Rhino	Alberta	Named from specimens previously considered to belong to <i>Chasmosaurus</i> . Some paleontologists still think this is just <i>Chasmosaurus</i> ; others think that the proper name for it is the (currently not used) " <i>Eoceratops</i> ".
* <i>Ojoceratops</i>	Ojo [Alamo Formation] horned face	Late Cretaceous	(70.6-68.5 MYA)	29.5 ft (9 m)	Elephant	New Mexico	Known from a partial skull, a close relative to <i>Eotriceratops</i> and <i>Titanoceratops</i> (indeed, they all might wind up being the same dinosaur!)
<i>Pentaceratops</i>	five-horned face	Late Cretaceous	(80-72.8 MYA)	26.2 ft (8 m)	Rhino	New Mexico	The five horns are the brow horns, the nose horn, and two hornlike projections from the cheek. In fact, all ceratopsids (and many other ceratopsians) have these cheek horns!
* <i>Tatankaceratops</i>	bison horned face	Late Cretaceous	(66.8-65.5 MYA)	3.3 ft (1 m)	Sheep	South Dakota	Described as dwarf chasmosaurine closely related to <i>Triceratops</i> . I <b>STRONGLY</b> suspect this is just a young <i>Triceratops</i> and not a distinct species.
* <i>Titanoceratops</i>	titanic horned face	Late Cretaceous	(80-72.8 MYA)	29.5 ft (9 m)	Elephant	New Mexico	Originally considered the largest specimen of <i>Pentaceratops</i> , this turns out to be a different genus close to the ancestry of <i>Eotriceratops</i> , <i>Torosaurus</i> , and <i>Triceratops</i> .
<i>Torosaurus</i>	perforated [frill] reptile [not bull reptile!]	Late Cretaceous	(66.8-65.5 MYA)	29.5 ft (9 m)	Elephant	Wyoming, Montana, South Dakota, Utah, New Mexico, Texas; Saskatchewan	A large, and enormously frilled, chasmosaurine. Recent studies suggest that this is not its own distinctive genus, but simply the fully-adult form of <i>Triceratops</i> .
<i>Triceratops</i>	three-horned face	Late Cretaceous	(66.8-65.5 MYA)	29.5 ft (9 m)	Elephant	Colorado, Wyoming, Montana, North Dakota, South Dakota; Alberta, Saskatchewan	Probably the most common dinosaur at the end of the Cretaceous in western North America. " <i>Nedoceratops</i> " (also called " <i>Diceratops</i> " and " <i>Diceratus</i> ") is almost certainly just a subadult <i>Triceratops</i> ; <i>Torosaurus</i> may be the fully adult form of this genus.
^ <i>Utahceratops</i>	Utah horned face	Late Cretaceous	(80-72.8 MYA)	23 ft (7 m)	Rhino	Utah	A close relative of <i>Pentaceratops</i> . Like <i>Kosmoceratops</i> its brow horns point sideways, not forward.
* <i>Vagaceratops</i>	wandering horned face	Late Cretaceous	(80-72.8 MYA)	23 ft (7 m)	Rhino	Alberta	Originally described as a short-horned species of <i>Chasmosaurus</i> , but considered by some to be a distinct genus more closely related to <i>Kosmoceratops</i> than to <i>Chasmosaurus</i> .

\* Genus not in original published list.

\*\* Grouping of dinosaurs not in original published list.

^ New genus name for dinosaur without official name in original published list.

Last additions 12 January 2012