

Superpredators: How Two of the Largest Carnivorous Land Animals Ever to Live Survived and Thrived

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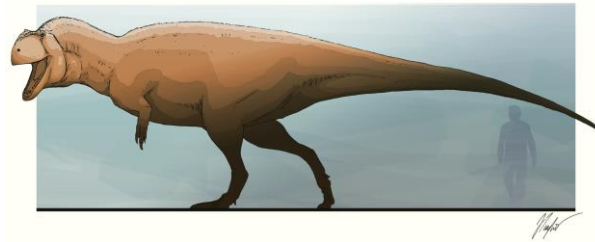
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Superpredators: How two of the Largest Carnivorous Land Animals ever to live Survived and Thrived

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Acrocanthosaurus:



Acrocanthosaurus is quite unique among large theropods. Though it is not the only one to possess a sail, it is the only one to do so and retain its macro predatory adaptations. The function of this sail is hotly debated. Many different theories have been proposed pertaining to its use, from regulating body temperature, to sexual display, and even that it was no sail at all, but that the extended vertebrae were used to support a camel-like hump of fat, that the animal could draw on in difficult times.

As for its lifestyle, Acrocanthosaurus lived during the early Cretaceous period of North America, and likely was the largest predator in its ecosystem. Other predators known from the area include the relatively small dromaeosaur, Deinonychus, but these likely were of little concern to Acrocanthosaurus. Prey items for it would include ornithomimids like Tenontosaurus primarily, however speculation has arisen that it may have been capable of hunting the large sauropods like Sauroposeidon and Astrodon that inhabited the same area. Theories have been proposed that suggest that Charcharodontosaurids like Acrocanthosaurus may have hunted in groups, which may, in theory provide the means to subdue such large prey, but there is little fossil evidence for it.

Sources: D'Emic et al. 2011. *Paleobiology and geographic range of the large-bodied Cretaceous theropod dinosaur Acrocanthosaurus atokensis*, Carpenter, Kenneth. 2016. *Acrocanthosaurus: inside and out*, Jed Taylor (image)



Torvosaurus:

Torvosaurus was a Megalosaurid theropod that lived in Europe, Africa, North America, and South America during the middle to late Jurassic period. Because it is known from such a wide area of assemblages, it was likely a very versatile animal that could hunt a large variety of prey. Animals found in the same deposits as Torvosaurus include ornithomimids like Camptosaurus and Draconyx, thyreophorans like Dacentrurus, Miragaia, and Stegosaurus, and a whole host of sauropods, ranging from Apatosaurus to Giraffatitan.

Perhaps most interesting of its contemporaries is the large number of other large theropods it coexisted with. Creatures like Allosaurus, Ceratosaurus, Saurophaganax, and Ostafrikasaurus all lived in formations with Torvosaurus. This is rather striking, as supporting this many large predators together is a very unique situation ecologically. It is highly likely that this synergy was only sustainable because each served a different ecological niche. Torvosaurus and Ceratosaurus had slimmer bodies, and so may have preferred forested areas, while Allosaurus was faster, but less maneuverable, preferring open floodplains, but Allosaurus and Torvosaurus bones have been found at the same locations, so this theory needs to be more fully fleshed out before it can be taken completely seriously.

Sources: Paleo Horizons, Winter Issue, 1995. Galton, Peter. 1979. *A New Large Theropod Dinosaur from the Upper Jurassic of Colorado*. Fred Weirum (image)