

WEEK 4 DINOSAURS DOMINATE

After the end of the Triassic extinction event, the dinosaurs begin to establish themselves even further and we see that, from those sparse dinosaurs that were around during the Triassic - early Triassic - we see that after the Triassic these dinosaurs radiate and they take over and become the dominant terrestrial animals.

What is also interesting that is that when we look at the loss of the biodiversity at the end of the Triassic, we see that the dominant herbivores are also gone and this means that the dinosaurs now have the opportunity to radiate and fill that gap as herbivorous animals that also become incredibly successful.

We soon see that the Mesozoic is rightly called the Age of the Dinosaurs. Later this week we will talk to my PhD student, Emil Krupandan, about the early radiation of the dinosaurs and we will look to see what is the fossil evidence for the precursors of the sauropods. These are these iconic big, long-necked dinosaurs that everybody seems to think of when we say dinosaurs.

The end of the Triassic also saw the end of the rauisuchians. Remember, I told you about these, these were the vicious predators that evolved early in the Triassic after the end of the Permian extinction event. Of course, once this niche was vacated by the rauisuchians, the predatory dinosaurs obliged. They radiated even further and soon we see a number of large predatory dinosaurs in the ecosystems.

By the Jurassic, about 150 million years ago, we see that the meat-eating dinosaurs give rise to a side branch that become birds. The fossil evidence for the evolution of birds from dinosaurs is absolutely fascinating, especially when you consider the new discoveries of feathered dinosaurs and four-winged dinosaurs that have been coming out of China.

Unfortunately, we don't have time to talk in detail about these but I will make sure to put some resources online for you. It is worth noting that, throughout the reign of the dinosaurs, for over 165 million years, mammals coexisted with dinosaurs.

Mammals had evolved from the cynodonts towards the end of the Triassic about 200 million years ago and, for much of this time, they actually were contemporaneous with dinosaurs but they were small, inconspicuous and just about rat-sized animals. We think that they were probably nocturnal and they lived, literally, in the shadows of the dinosaurs.

After the end of the Triassic extinction, the marine reptiles in the oceans also began their rise and soon we see the diversification of the first flying vertebrates, the pterosaurs.



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