Paleontologists discover a new type of 'bear dog,' a large predator from the Pyrenees

June 15 2022

Credit: Denny Navarra

A fossilized lower jaw has led an international team of paleontologists, headed by Bastien Mennecart from the Natural History Museum Basel, to discover a new species of predator that once lived in Europe. These large predators belong to a group of carnivores colloquially known as "bear dogs." They could weigh around 320 kilograms and appeared 36 million years ago before becoming extinct around 7.5 million years ago.

Paleontologist Bastien Mennecart and his research group precisely described the fossilized lower jaw of a carnivore and discovered that it must be a specimen from a new species. The jawbone comes from 12.8 to 12 million-year-old marine deposits that were examined in the small community of Sallespisse in the Pyrénées-Atlantiques department of south western France.

The teeth of time

The jawbone was striking because of its teeth. Unlike the familiar amphicyonidae specimens, this animal has a unique fourth lower premolar. This tooth is particularly important for determining species and genera. Correspondingly, the lower jaw examined probably represents a new genus. It is called Tartarocyon. This name comes from Tartaro, a large, powerful, one-eyed giant from Basque mythology. The legend of Tartaro is also known in Béarn, the region where the lower jaw was found. Floréal Solé, a globally renowned specialist in carnivorous mammals, Jean-François Lesport and Antoine Heitz from the Natural History Museum Basel chose the name of the new genus.

Tartarocyon. Credit: Tartarocyon

Dog-like predator

The fossilized lower jaw can be classified as belonging to predators that resembled a cross between a bear and a large dog, known as "bear dogs." Their scientific name is Amphicyonidae. They belong to a group of carnivores such as dogs, cats, bears, seals and badgers. These predators were a widespread part of the European fauna of the Miocene (23 to 5.3 million years ago). They were very species-rich and diverse, weighing between 9 kg and 320 kg. Tarataroyon is estimated at 200 kg. The last European Amphicyonidae disappeared during the late Miocene 7.5 million years ago.

Credit: Denny Navarra

Key contemporary witnesses

Discoveries of fossilized terrestrial vertebrates that lived on the northern edge of the Pyrenees 13 to 11 million years ago are very rare. The discovery and description of the lower jaw is even more significant. That is because it offers the opportunity to explore the development of European "bear dogs" against the background of known environmental events at this time.

More information: Floréal Solé et al, A new gigantic carnivore (Carnivora, Amphicyonidae) from the late middle Miocene of France, *PeerJ* (2022). DOI: 10.7717/peerj.13457

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