

## **New carcharodontosaurian theropod materials from the Lower Cretaceous Khok Kruat Formation in Northeastern Thailand**

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Japan and Thailand joint expedition worked from 2007 to 2010 at the Dinosaur Quarry in Suranari, Nakhon Ratchasima District of northeastern Thailand. The Lower Cretaceous Khok Kruat Formation is distributed at this quarry and its environs. The Dinosaur Quarry has produced many vertebrate fossils, which include pterosaurs, crocodiles, turtles, hybodont sharks, amiiform fish scales, and dinosaurs such as theropod, sauropod and non-hadrosaurid iguanodontian.

Here we report new large-bodied theropod materials (premaxilla, maxillae, isolated teeth, cervicals, dorsal, caudal, manual ungual and metatarsal). We refer these theropod materials to the Carcharodontosauria clade established by Benson et al. (2010).

The premaxilla is large and rectangular in shape, and preserved four premaxillary teeth as in *Acrocanthosaurus* and most of other theropods. The premaxillary teeth have the anterior carina on the lingual side and show no "D-shape" in horizontal section as in *Acrocanthosaurus* and allosaurids. There are four interdental plates, which are approximately the same height as in *Allosaurus*. Each isolated teeth are blade-shaped and have carcharodontosaurid-like diagnosis, such as arcuate enamel wrinkles. The ratio of the labial-lingual basal width to the fore-aft base length is similar to that of carcharodontosaurids.

In Asia, large-bodied non-avian theropods are generally known as the terrestrial apex predator such as *Monolophosaurus*, *Yangchuanosaurus* and *Sinraptor* in the Jurassic, and *Tarbosaurus* in the Late Cretaceous. However, the knowledge of them in the Early to mid-Cretaceous of Asia is still relatively less, except for *Shaochilong* (= *Chilantaisaurus*), *Fukuiraptor*, *Siamotyrannus* and *Siamosaurus*.

New carcharodontosaurian materials from the Dinosaur quarry in Suranari should give us new knowledge of the evolution, distribution and paleobiogeographical movement of large-bodied non-avian theropod in the Early Cretaceous of Asia.