A reassessment of *Kelmayisaurus petrolicus*, a large theropod dinosaur from the Early Cretaceous of China

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The Early Cretaceous fossil record of large–bodied theropods from Asia is poor, hindering comparison of Asian predatory dinosaur faunas with those from other continents. One of the few large Asian theropod specimens from this interval is a partial skull (maxilla and dentary) from the Lianmugin Formation (?Valanginian–Albian), the holotype of *Kelmayisaurus petrolicus*. Most authors have either considered this specimen as an indeterminate basal tetanuran or a nomen dubium. We redescribe *K. petrolicus* and note that it possesses a single autapomorphy (a deep accessory groove on the lateral surface of the anterior dentary), as well as a unique combination of characters that differentiates it from other theropods, affirming its validity. A phylogenetic analysis recovers *K. petrolicus* as a basal carcharodontosaurid, which is supported by various features: very deep interdental plates (a carcharodontosaurid synapomorphy), fused interdental plates (present in carcharodontosaurids and a limited number of other theropods), and the absence of diagnostic features of other clades of large–bodied theropods such as abelisaurids, megalosauroids, and coelurosaurs. As such, *Kelmayisaurus* is the second known carcharodontosaurid from Asia, and further evidence that this clade represented a global radiation of large–bodied predators during the Early–mid Cretaceous.

**Key words:** Dinosauria, Theropoda, Carcharodontosauridae, anatomy, Cretaceous, China.

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