

## **A new species of the ginglymodian fish *Isanichthys* from the Late Jurassic Phu Kradung Formation, northeastern Thailand**

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A new ginglymodian fish, *Isanichthys lertboosi*, is described from the Phu Kradung Formation, north-eastern Thailand, a freshwater deposit of probable Late Jurassic age. The species is represented by four specimens, from the Phu Noi locality, associated with a rich fauna of sharks, turtles, crocodiles, and theropod and sauropod dinosaurs. One specimen is an isolated braincase, which provides characters rarely observed in extinct ginglymodians. The species is referred to the genus *Isanichthys*, a taxon originally described on the basis of a single specimen from the Phu Nam Jun locality, a slightly younger site approximately 75 km from Phu Noi. *Isanichthys* is mainly distinguished by frontals slightly narrower anteriorly than posteriorly, two anterior infraorbitals not in contact with the orbit, reduced preorbital region, and a small orbit and a cheek region completely covered by bones. The new species is characterized, among other characters, by a dermal component of the sphenotic visible on the cheek, one pair of extrascapulars plus a small median one, the presence of few suborbitals (ca. 4 or 6) arranged in one row, and a median dorsal row of scales with spine. Comparisons with other ginglymodian taxa and a cladistic analysis indicates that *Isanichthys* (*Lepidotes*) *latifrons* from the Late Jurassic of England, as well as probably *Isanichthys* (*Lepidotes*) *luchowensis* from the Early or Middle Jurassic of Sichuan, China, form a clade with both Thai species of *Isanichthys*. The new species provides evidence of the high diversity of ginglymodian fishes in the Phu Kradung Formation and suggests a new hypothesis of phylogenetic relationships among extinct ginglymodians.

**Key words:** Actinopterygii, Holostei, osteology, braincase, phylogeny, Jurassic, south-east Asia.

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