



A new species of Saurichthys (Actinopterygii: Saurichthyidae) extends its group's range to the Late Triassic in eastern Tethys

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The saurichthyiform fishes are a kind of ray-finned fishes which lived from the Upper Permian to the Middle Jurassic. Featured with a pointed rostrum and a streamlined long and slender body plan, they are considered among the top predators of the Mesozoic oceanic ecosystem. They were greatly diversified during the Middle Triassic, both in eastern and western Tethys, but appeared to vanish thereafter on both sides, with no undoubted record in the eastern Tethys for a long time. Recently, a new material of saurichthys was found from the Carnian (Upper Triassic) of Yunnan province, southwestern China. The material includes a nearly complete skull preserved together with some ammonites and bivalves. Based on the fairly long rostrum and some distinguishing features of the opercular bones, it is assigned as a new species of Saurichthys. The ammonites suggest a Carnian (Upper Triassic) age for the fish. The saurichthyiform fishes survived the end-Permian mass extinction and evolved rapidly shortly after that crisis to accomplish a world-wide distribution in the Early Triassic. They reached the diversity peak in the Middle Triassic, exemplified by nearly ten distinct taxa from the Anisian and Ladinian of Yunnan and Guizhou provinces, South China. However, they seemly 'disappeared' in this area during the Late Triassic, even in the fauna with diverse marine vertebrates. Given their contemporaneous existence in Europe, they were supposed to display a trend to shrink their marine distribution to the north-western Tethyan realm since the Middle Triassic. Our newly discovered Saurichthys material confirms their occurrence in the Late Triassic eastern Tethys and suggests that the saurichthyiform fishes might have a wider distribution than previously thought during that geological stage. This discovery promotes an updated understanding of the palaeogeographical distribution and the evolutionary history of the saurichthyiform fishes.