

# **TRACKING DINOSAUR ORIGINS**



## **The Triassic/Jurassic Terrestrial Transition**

### **Abstracts Volume**



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## **NEW MATERIAL OF *REVUELTOSAURUS CALLENDERI* AND ITS IMPLICATIONS FOR THE IDENTIFICATION OF EARLY ORNITHISCHIAN DINOSAURS**

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Discovery of new cranial and postcranial material of *Revueltosaurus callenderi* from the Upper Triassic Chinle Formation of Petrified Forest National Park, Arizona clearly demonstrates that *Revueltosaurus* is not an ornithischian dinosaur as previously supposed. Features such as the presence of a postfrontal, crocodile-normal ankle, and paramedian osteoderms with anterior bars place *R. callenderi* within the Pseudosuchia, closer to crocodylomorphs than to dinosaurs. Consequently, the dental characters previously used to place *Revueltosaurus* within the Ornithischia evolved convergently among other archosaur taxa, and cannot be used to diagnose ornithischian dinosaur teeth. As a result, all other putative North American Late Triassic ornithischians, which are all based exclusively on teeth, cannot be unquestionably assigned to that taxon. The only reasonably well-confirmed Late Triassic ornithischians worldwide are *Pisanosaurus mertii* and an unnamed heterodontosaurid from Argentina. This suggests that at least in North America, theropods were well-established much earlier than ornithischians with the earliest confirmed ornithischian being *Scutellosaurus* from the Jurassic Kayenta Formation. Presently, material from *Revueltosaurus* and other closely related taxa has also been recognized from several localities outside of Petrified Forest National Park, including the Bull Canyon Formation in New Mexico and the Pekin Formation in North Carolina. Thus, this previously unrecognized clade of presumably herbivorous pseudosuchians has a widespread distribution during the Late Triassic.

