



This major study on heterodontosaurid dinosaurs is the first to review the taxonomy, morphology, functional anatomy, and phylogeny of this important early radiation of small-bodied herbivores. Heterodontosaurids persisted for approximately 100 My, from Late Triassic to Early Cretaceous time, during which they evolved some of the most sophisticated dentitions for processing plant materials. Some species required reevaluation to establish unequivocally their status as heterodontosaurids, such as *Echinodon* from rocks in southern England, one of the first and smallest dinosaurs ever described. *Tianyulong* from northern China is described in more detail in the study and is shown to have unusual skeletal proportions, including a relatively large skull and very short forelimb. A new taxon, *Pegomastax africanus* **gen. n. sp. n.**, is described from southern Africa with a short parrot-shaped bill. Tooth replacement and tooth-to-tooth wear is more common than previously thought among heterodontosaurids, which the author argues are herbivores despite their prominent caniniform teeth. Heterodontosaurids appear to have split early in their history into a northern group with primitive, subtriangular crowns and a southern group with deeper crown proportions.

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TAXONOMY, MORPHOLOGY, MASTICATORY FUNCTION AND PHYLOGENY OF HETERODONTOSAURID DINOSAURS

BY PAUL C. SERENO



Flesh reconstruction of *Heterodontosaurus tucki*

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