

## Osteohistology of hyperodapedontine rhynchosaurs from the Upper Triassic of Southern Brazil

Fábio Hiratsuka Veiga, Marina Bento Soares, and Juliana Manso Sayão


*Acta Palaeontologica Polonica* 60 (4), 2015: 829-836 doi:<http://dx.doi.org/10.4202/app.00074.2014>

The first osteohistological study focused exclusively on rhynchosaurs (non-archosauriform archosauromorphs), based on the hyperodapedontines *Teyumbaita sulcognathus* and *Hyperodapedon* sp., from the Upper Triassic of Southern Brazil, indicates a relatively rapid growth rate in early ontogeny shown by the fibrolamellar complex, with a change to slow intermittent growth during late ontogeny represented by parallel-fibred bone with several growth marks. Contrary to previous studies, which described a typical non-archosaur reptilian bone tissue pattern for rhynchosaurs, with growth marks extending across the entire cortex, we demonstrate that, in both studied taxa, the initial growth rate was faster in comparison to the later. This suggests that the ability of rapid growth at high rates was already present in basal non-archosauriform archosauromorphs.

**Key words:** Diapsida, Archosauromorpha, Rhynchosauria, Hyperodapedontinae, bone histology, growth pattern, Triassic, Brazil.

Fábio H. Veiga [[fhveiga@gmail.com](mailto:fhveiga@gmail.com)] and Marina B. Soares [[marina.soares@ufrgs.com.br](mailto:marina.soares@ufrgs.com.br)], Universidade Federal do Rio Grande do Sul, Departamento de Paleontologia e Estratigrafia, Av. Bento Gonçalves 9500, 91540-000, Porto Alegre RS, Brazil; Juliana M. Sayão [[jmsayao@gmail.com](mailto:jmsayao@gmail.com)], Universidade federal de Pernambuco, Centro Acadêmico de Vitória, Núcleo de Biologia, Rua do Alto Reservatório s/n, Bela Vista, Vitória de Santo Antão, PE, Brazil.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see [creativecommons.org](http://creativecommons.org)), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Full text \(1,000.4 kB\)](#)