



Paleontologia em Destaque

Boletim Informativo da Sociedade Brasileira de Paleontologia

Edição Especial - Julho/2017

XXV Congresso Brasileiro de Paleontologia Ribeirão Preto-SP

17 a 21 de
Julho de 2017

*Vida no tempo profundo
a evolução através dos fósseis*



Boletim de Resumos



***Paleontologia
em Destaque***

Boletim Informativo da Sociedade Brasileira de Paleontologia
ISSN 1807-2550

Ano 32 – Edição Especial



Ribeirão Preto – Junho/2017

A NEW WAY TO RETRACT THE TURTLE HEAD? NECK MORPHOLOGY AND MOBILITY IN *ARARIPEMYS BARRETOI*

GABRIEL S. FERREIRA^{1,2,3}, INGMAR WERNEBURG^{2,3}, FELIPE C. MONTEFELTRO⁴,
MAX C. LANGER¹ & LUIZ E. ANELLI⁵

*gsferreirabio@gmail.com, ingmar.werneburg@senckenberg.de,
felipecmontefeltro@gmail.com, mclanger@ffclrp.usp.br, luizeduardo.anelli@gmail.com*

The Early Cretaceous *Araripemys barretoii* is one of the best-known Brazilian side-necked turtle fossils, with around 100 specimens in several collections worldwide. It is found most commonly in the Albian Romualdo Formation of the Araripe Basin, though few specimens were also retrieved from the Aptian Crato Formation. Its bizarre morphology, resembling in numerous aspects that of trionychids, is well known from previous works; however, its neck morphology has not been discussed in terms of its mobility so far. We describe the neck of two new almost complete and articulated specimens from the Crato Formation and discuss potential neck movements. The cervical vertebrae (CV) 2-8 of *A. barretoii* have nearly the same morphology with subtle variations in size along the series. The centra are slender and long, with large transverse processes projecting laterally, the articular surfaces of the prezygapophyses face dorsally, and the postzygapophyses are fused in a crescent shaped articulation. There is no evidence of disarticulation in the specimens presented here and, thus, we measured angles between the cervical vertebrae as their potential minimal lateral movement. Angles above 50° were measured in all visible vertebral articulations, the highest being between CV4-CV5 (87°) and CV5-CV6 (106°). A greater mobility along the entire neck would have made possible greater lateral mobility in *A. barretoii*. Such evidence indicates that the taxon could have been capable of retracting its neck in a distinct way when compared to other pleurodires and cryptodires. This would be advantageous for *A. barretoii* individuals, since the carapace is not anteriorly expanded as in other long-necked pleurodires, but instead, has an anterior notch on the nuchal, which most likely restricted the dorsal protection when the neck was retracted. Ongoing

research will model its potential movements to test this hypothesis. [FAPESP 2014/25379-5 & 2016/03934-2 to GSF, FAPESP 2014/03825-3 to FCM and MCL, Processo IPL 0021/2012-13 – Laudo 4774/2013 NUCRIM/SETEC/SR/DPF/SP]

Sessão:
Biotas e ecossistemas do Mesozoico

¹Biology Department, Faculty of Philosophy, Science, and Letters at Ribeirão Preto, University of São Paulo, Ribeirão Preto, Brazil, ²Senckenberg Center for Human Evolution and Palaeoenvironment (HEP) at Eberhard Karls Universität, Tübingen, Germany, ³Fachbereich Geowissenschaften, Eberhard Karls Universität, Tübingen, Germany, ⁴Departamento de Biologia e Zootecnia, Faculdade de Engenharia, Universidade Estadual Paulista, Ilha Solteira, Brazil, ⁵Instituto de Geociências, University of São Paulo, São Paulo, Brazil.