

## A new plesiosauroid from the Toarcian (Lower Jurassic) of Alhadas, Portugal

Adam S. Smith, Ricardo Araújo, and Octávio Mateus

*Acta Palaeontologica Polonica* 57 (2), 2012: 257-266 doi: <http://dx.doi.org/10.4202/app.2011.0023>

A partial plesiosauroid skull from the São Gião Formation (Toarcian, Lower Jurassic) of Alhadas, Portugal is re-evaluated and described as a new taxon, *Lusonectes sauvagei* gen. et sp. nov. It has a single autapomorphy, a broad triangular parasphenoid cultriform process that is as long as the posterior interpterygoid vacuities, and also a unique character combination, including a jugal that contacts the orbital margin, a distinct parasphenoid–basisphenoid suture exposed between the posterior interpterygoid vacuities, lack of an anterior interpterygoid vacuity, and striations on the ventral surface of the pterygoids. Phylogenetic analysis of Jurassic plesiosauroids places *Lusonectes* as outgroup to "microcleidid elasmosaurs", equivalent to the clade Plesiosauridae. *Lusonectes sauvagei* is the only diagnostic plesiosaur from Portugal, and the westernmost occurrence of any plesiosaurian in Europe.

**Key words:** Elasmosauridae, Plesiosauridae, Plesiosauria, *Lusonectes sauvagei*, plesiosaur, Jurassic, Toarcian, Lusitanian basin, Portugal.

Adam S. Smith [[plesiosauria@gmail.com](mailto:plesiosauria@gmail.com)], Thinktank, Birmingham Science Museum, Millennium Point, Curzon Street, Birmingham, B4 7XG, UK; Ricardo Araújo [[rmaraujo@smu.edu](mailto:rmaraujo@smu.edu)], Roy M. Huffington Department of Earth Sciences, PO Box 750395, Dallas, Texas, 75275-0395; and Museu da Lourinhã, Rua João Luis de Moura, 2530-157- Lourinhã, Portugal; Octávio Mateus [[omateus@fct.unl.pt](mailto:omateus@fct.unl.pt)], CICEGe, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, 2829-516 Caparica, Portugal; and Museu da Lourinhã, Rua João Luis de Moura, 2530-157- Lourinhã, Portugal.

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 \(807.3 kB\)](#)