Prof. Dr. Johannes Müller

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Tasks

- Professor of Paleozoology
- Spokesperson of Science Program ?Genome ? Organism ? Environment?
- Head of microCT lab

Research interests

My research focuses on the evolution of tetrapods, particularly reptiles. I am especially interested in patterns of phylogenetic and morphological diversification, both from a neontological and paleontological perspective. In order to address these issues my lab integrates methods from morphology, ecology, phylogenetics, and molecular biology, and uses modern and extinct organisms as study systems. A major methodological approach in our research is the application of computed tomography to investigate fossil and extant morphologies.

Research projects

- Early evolution and paleobiology of amniote vertebrates (DFG funded, 2006 - 2011)
- Biotic and abiotic factors promoting the diversification of caenophidian snakes (DFG funded, 2011 - 2014)
- Late Cretaeceous vertebrate diversity and paleoecology of northern Sudan (DFG funded, 2011 - 2013)

Publications

(Selection)

Müller, J., Hipsley, C. A., Head, J. J., Kardjilov, N., Hilger, A., Wuttke, M. & Reisz, R. R. (2011): Eocene lizard from Germany reveals amphisbaenian origins. Nature 473 (7347): 364?367. doi:10.1038/nature09919

Müller J., Scheyer T.M., Head J.J., Barrett P.M., Werneburg I., Ericson P.G.P., Pol D. & Sánchez-Villagra M.R. (2010): Homeotic effects, somitogenesis and the evolution of vertebral numbers in recent and fossil amniotes. PNAS 107:2118-2123.

Müller, J. & Tsuji, L. A. (2007): Impedance-matching hearing in Paleozoic reptiles: evidence of advanced sensory perception at an early stage of amniote evolution. PLoS ONE 2(9): e889. doi:10.1371/journal.pone.0000889

Müller, J. & Reisz, R. R. (2006): The phylogeny of early eureptiles: comparing parsimony and Bayesian approaches in the investigation of a basal fossil clade. Systematic Biology 55: 503-511.

Reisz, R. R. & Müller, J. (2004): The fossil record and molecular timescales: a paleontological perspective. Trends in Genetics 20(5): 237-241.

Further information

Publications

Short CV (PDF, 41 kb)

Lab website