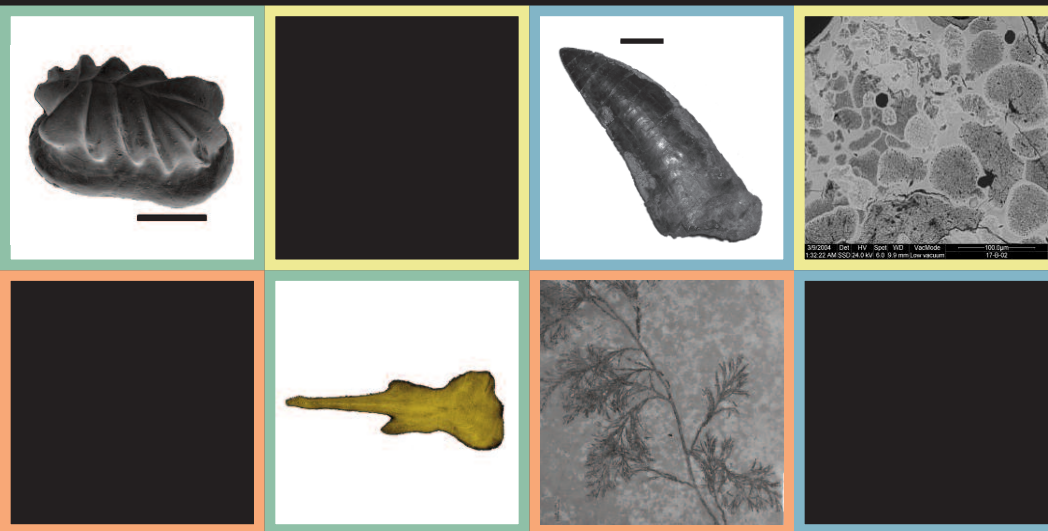


1ST INTERNATIONAL MEETING OF EARLY-STAGE RESEARCHERS IN PALAEOLOGY | 1ST IMERP  
1XIV ENCUENTRO DE JÓVENES INVESTIGADORES EN PALEONTOLOGÍA | XIV EJP

# New perspectives on the Evolution of Phanerozoic Biotas and Ecosystems



ALPUENTE (VALENCIA)  
2016

CONFERENCE PROCEEDINGS

**New perspectives on the Evolution of Phanerozoic Biotas and Ecosystems  
Conference proceedings**

**1st International Meeting of Early-stage Researchers in Palaeontology  
XIV Encuentro de Jóvenes Investigadores en Paleontología**

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## **New perspectives on the Evolution of Phanerozoic Biotas and Ecosystems Conference proceedings**

Esther Manzanares, Humberto G. Ferrón, Maite Suñer, Borja Holgado, Vicente D. Crespo, Samuel Mansino, Ana Fagoaga, Rafael Marquina, Ignacio García-Sanz, Carlos Martínez-Pérez, Marçal Joanes-Rosés, Borja Cascales-Miñana, María Dolores Marin-Monfort (Editors)

# Pterosaur flight adaptations: a paleoartistical review

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Pterosaurs were the vertebrates that developed powered flight for the first time. Since their appearance during the Late Triassic, these flying archosauromorphs ruled the skies of the Mesozoic Era before their extinction at the end of the Cretaceous. During the early evolutionary history of the clade, pterosaur anatomy and physiology became highly modified and specialized to meet the structural and high metabolic demands of powered flight.

Hereby, I present an infographical illustration that aims to review some of the most remarkable adaptations in pterosaur anatomy and physiology to support flight. These include: osteological and inferred myological modifications (featuring the *os pterioideus* or the *notarium*, among others; Peters, 2009); the structure of the wing and the anatomy and histology of the patagium (featuring actinofibrils; Bennett, 2000); the development of skeletal pneumaticity and an aerial sac system (Claessens *et al.*, 2009), or the neuroanatomical development that accompanied the evolution of flight, granting the fine-tuned motor coordination needed to perform flight. The aforementioned adaptations are depicted in the pterosaur species of the Cretaceous *Pteranodon sternbergi*, an outstanding example of the degree of specialization acquired by pterosaurs.

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