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# 3rd Palaeontological Virtual Congress

**Book of Abstracts**

December 1–15<sup>th</sup>, 2021



## 3<sup>rd</sup> Palaeontological Virtual Congress

Book of Abstracts

Palaeontology in the virtual era

From an original idea of Vicente D. Crespo

**Published by** Evangelos Vlachos, Penélope Cruzado-Caballero, Vicente D. Crespo, María Ríos Ibañez, Fernando Antonio M. Arnal, Jose Luis Herraiz, Francesc Gascó-Lluna, Rosalía Guerrero-Arenas and Humberto G. Ferrón.

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## Preface

Following the two previous and successful editions of the Palaeontological Virtual Congress (PVC), organized in December 2018 and May 2020, we sat to seriously think about the necessity of having a 3<sup>rd</sup> Edition in 2021. The PVC had started in 2018 as an original idea to promote virtual participation from around the globe by overcoming all kinds of physical, financial and other types of barriers. The onset and development of the COVID19 pandemic quickly made virtual conferences the only way to share knowledge and the 2<sup>nd</sup> PVC played an important role in the communication of the palaeontological community with 60% increased participation. However, another year of restrictions and virtual conferences, the potential burnout and Zoom fatigue, made us wonder whether the community would accompany our efforts.

To our delight, participation has doubled compared to 2020, but even more importantly, the number of contributions rose significantly. In the 3<sup>rd</sup> PVC, more than **520 scientists** from **56 different countries** gathered virtually to watch more than **282 contributions**, a staggering **75%** additional content compared to 2020. Also, we have noticed another important trend: the increase of recorded presentations. In the PVC we offer two types of presentations: static slideshows (both short and longer talks) and pre-recorded video presentations. In 2018, pre-recorded video presentations represented only 4% of the total contributions, whereas in 2020 this number rose to 22%. In this year's edition, pre-recorded video presentations represent 38% of the total content! It looks like the emergence of virtual conferences during these challenging times has created a new trend in scientific communication.

Following the sharp increase in the number of contributions, the 3<sup>rd</sup> PVC hosts an even greater diversity of topics. Besides the traditional Sessions of the Paleozoic, Mesozoic, Cenozoic and General Palaeontology, the 3<sup>rd</sup> PVC also hosts 7 Keynote presentations and 8 Thematic Sessions.

Our keynote speakers present talks on *Palaeoecological Interpretations from Fossil Bone Microstructure* (Prof. A. Chinsamy-Turan), *A Jurassic*

*Geothermal System in Patagonia* (Dr. I. Escapa), *The Origin and Early Evolution of Organ Systems* (Dr. X. Ma), an *Overview of the Vertebrate Fossils from Portugal* (Prof. O. Mateus), *Melanin through Deep Time* (Prof. M. McNamara), *Pleistocene Mammalian Footprints from Chile* (Dr. K. Moreno), and on *Peccaries as a Window into Paleobiology* (Dr. D. Prothero).

Our Thematic Sessions gathered contributions on topics like *Virtual Palaeontology* (organized by Ferreira G.S., Hartung J. & Kampouridis P.), *Palaeontological Heritage in the 21<sup>st</sup> Century* (organized by Cruzado-Caballero P., Castillo-Ruiz C. & Guerrero-Arenas R.), *Conservation Paleobiology – Bridging Past and Future* (organized by Abondio P., Dimitrijević D. & Hohmann N.), *The Multiple Perceptions of Fossils* (organized by Aguilar-Arellano F. J. & Guerrero-Arenas R.), *Palynology, Palaeoenvironment and Palaeoclimate* (organized by Bertini A., Combourieu-Nebout N. & Niccolini G.), *New Advances on Stratigraphy and Paleontology in Taiwan* (organized by Jih-Pai Lin, Chien-Hsiang Lin & Wei-Chia Chu), *Molecular Palaeontology* (organized by García-Vázquez A. & Grandal-d'Anglade A.), and the *Co-evolution of life and environment during the key geological transitions* (organized by Jing Lu, Zongjun Yin & Zhuo Feng).

Finally, the participants will enjoy three Virtual Field Trips, one in the Canary Islands (by C. Castillo and P. Cruzado-Caballero) and two in Taiwan (by L. Chen-Wei and H. Chia-Hsin, and collaborators).

All those contributions presented in this volume show that, contrary to our dear organisms of the past that form the focus of our studies, the paleontological community has not gone extinct during these challenging times.

We would like to thank all our colleagues for organising and coordinating the different workshops. We also want to thank all the authors for submitting their contributions and the numerous reviewers that have made this volume and congress possible. We would also like to give special thanks to all Palaeontological and Geological Societies, Editorials, Museums, and Universities that have supported this initiative.





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## LATE JURASSIC FISHES FROM TORRES VEDRAS, PORTUGAL

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Torres Vedras municipality, in the central-western section of Portugal, within the Lusitanian Basin, is well-known for its vertebrate fossil assemblage, especially for the case of dinosaurs. Fossil elasmobranchs and actinopterygians were poorly documented on its coastal outcrops so far. Here we describe new fossil shark and neopterygian specimens, collected on the surface of the marine deposits at the top of Praia Azul Member, Lourinhã Formation, dating between upper Kimmeridgian-lower Tithonian, and on the surface of the transitional deposits of Cambelas fossil site, Freixial Formation, dating between the middle-upper Tithonian, Upper Jurassic. Fossils are now housed in the CI2Paleo of Sociedade de História Natural. Sharks are represented by 38 isolated teeth, whose dental characters agrees with those of *Hybodus reticulatus*, as per diagnostic evidences, especially its reticulated, spongy root, and well-developed enameloid ridges on both crown faces. The presence of this taxon in the Upper Jurassic Portuguese record is therefore confirmed. Neopterygian specimens are represented by a set of 29 isolated or partially articulated body scales attributed to cf. *Ginglymodi*, based on the presence of smooth ganoine covering the scales, and the rectangular-oblong to rhomboidal-like scale shape; and 38 isolated or partially articulated teeth referred to *Pycnodontiformes* indet., based on its more or less pillow-shape, smooth convex occlusal surface, and for being arranged in longitudinal rows, forming a more or less dense pavement. The results of this study certainly improve our understanding about the fish diversity of the Upper Jurassic of Portugal.



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