4th Palaeontological Virtual Congress

Book of Abstracts

May 8–22nd, 2023

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4th Palaeontological Virtual Congress

Book of Abstracts

Palaeontology in the virtual era

From an original idea of Vicente D. Crespo

Published by Evangelos Vlachos, Vicente D. Crespo, María Ríos Ibañez, Fernando Antonio M. Arnal, Arturo Gamonal, Penélope Cruzado-Caballero, Javier González-Dionis, Rosalía Guerrero-Arenas, and Alba Sánchez-García.

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Preface

Following the three previous and successful editions of the Palaeontological Virtual Congress (**PVC**), organized in December 2018, May 2020, and in 2021 during the COVID19 pandemic, the 4th Palaeontological Virtual Congress continues to demonstrate the necesity for virtual meetings in palaeontology.

PVC shows a steady growth compared to previous years, in both participants and contributions. In the 4th PVC, more than **400 scientists** from **72 different countries** gathered virtually to watch more than **365 contributions**, an absolute record in terms of different countries (56 last time) and number of contributions.

Following the sharp increase in the number of contributions, the 4th PVC hosts an even greater diversity of topics. Besides the traditional Sessions of the Paleozoic, Mesozoic, Cenozoic and General Palaeontology, the 4th PVC also hosts 8 Keynote presentations,12 Thematic Sessions, and 3 Virtual Field Trips.

The mission of this Palaeontological Virtual Congress was communited by 7 Ambassadors and Ambassadresses who helped attracting interest and spread our news. Thanks to them, we have been able to enjoy thre greatest national diversity reaching nearly half of the countries on Earth!

We continued to add virtual activities, including a Photography and Palaeoart contest. You can find the wonderful prized photographs and artwork herein.

Also, selected papers coming from this year's communication will feature on a Special Volume of the high-quality peer-reviewed journal Geobios, that publishes bimonthly in English original peer-reviewed articles of international interest in any area of palaeontology, palaeobiology, palaeoecology, palaeobiogeography, biostratigraphy, stratigraphy and biogeochemistry.

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.

A Morning Surprise (***Megaloceros***, ***Homo***)
Nickolaus Peter
Palaeoart Competition (Special Mention)

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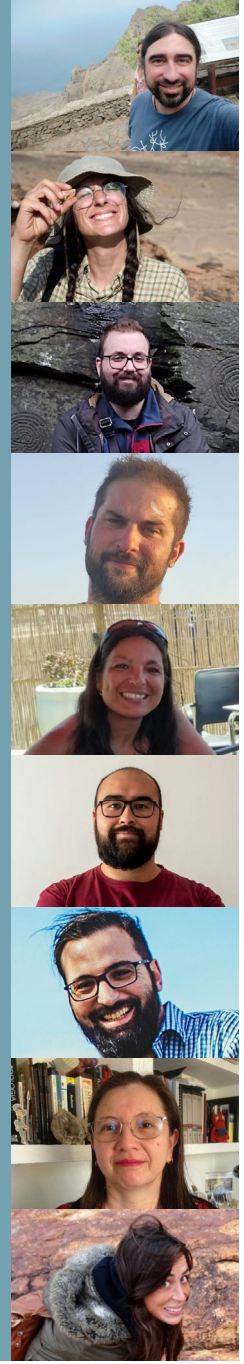

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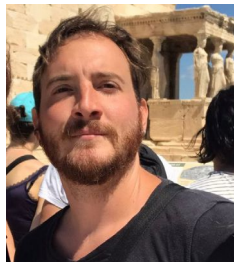




Elena Cuesta
Elena Cuesta was born in the Canary Island (Spain). She is a geologist by the Complutense University of Madrid and PhD in Biology by the Autonomous University of Madrid. She has been working during her postdoctoral stage at the Fukui Prefectural University (Japan) and Paleontological Museum of Munich (Germany). Her research is focused in the Paleobiology of theropod dinosaurs, studying their anatomy and evolutionary relationships.

Panagiotis D. Sianis
My name is Panagiotis D. Sianis, but people usually call me Panos. I'm a PhD student from the University of Patras (Greece), specializing in Early Pleistocene large mammal assemblages. I have completed my Bachelor's degree in Geology at the University of Patras and then received a MSc from the same institute. Currently, I reside in Portugal collaborating with Universidade NOVA de Lisboa.

Gastón A. Martini
My name is Gastón A. Martini, alias Tato. I am an Argentinian biologist (from UNRC), doing a Ph.D. in Biological Sciences (at UNC) in my home country. My place of work is located in southern Argentina (CIEMEP-CONICET). I am currently studying a group of glyptodonts from the Santa Cruz Formation (Early Miocene) of Patagonia (Argentina). My research is focused on anatomical, taxonomic, phylogenetic, and paleobiology aspects of them with an emphasis on cranial characters. Last but not least, I am a plant and dog lover and a human of two puppies (Franky and Rufi).

Diana Osipova
My name is Diana Osipova. I obtained my Master's in Kyiv (Ukraine), and had started my research career as a Juniour Research Scientist at Institute of Zoology (Ukraine). Starting from that moment I have been interested in and mostly focusing on the study of the evolution of hinge in Bivalvia, and its abnormalities. For the present moment, I continue my project in Academia Sinica (Taiwan), and work with fossil Mollusca specimens, mostly specializing on Pliocene-Pleistocene taxa.

Dominique Mediodia
My name is Dominique P. Mediodia from the Philippines. I am a faculty member of the Institute of Marine Fisheries and Oceanology, College of Fisheries and Ocean Sciences, University of the Philippines Visayas. I am a Ph.D. student at the National Taiwan Normal University. I am a recipient of the Taiwan International Graduate Program (TIGP) offered by Academia Sinica. My study will focus on understanding the relationship between phylogeny, morphology, and biodiversity in fish fossil otoliths using 3D imaging.

Sofía Urzagasti-Torres
My name is Sofía Urzagasti-Torres, I am 25 years old (Bolivian/Argentinian) and I hold a Bachelor's degree in Paleontology from the Universidad Nacional de Río Negro (UNRN) in the city of General Roca, Argentina. Currently, I am pursuing my Ph.D. at the same university and my workplace is the Instituto de Investigación en Paleobiología y Geología (IIPG). I am specializing in Vertebrate and Invertebrate Ichnology and my research topic focuses on Avian Footprints from the Upper Cretaceous of Argentina from an icnotaxonomic, paleobiological, paleoecological and paleoenvironmental perspective.

Sara Akboub
I am Sara AKBOUB, a 25 years old Moroccan Geologist, currently pursuing my PhD in Paleontology and sedimentology at university of Chouaib Doukkali in Morocco. A very passionate, and enthusiast about anything related to fossils, trace fossils and Evolution of environments and species. My current research focuses on the study of vertebrates, invertebrates and insects; living around the end of the Carboniferous and Permian Period. Field work is one of my favorite parts of geology, it's a time traveling journey and that's why I started research in Geology.

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Morning in the forest
Ferrutxo
Palaeoart Competition (Special Mention)

Amber is fossilized tree resin appreciated for its color and natural beauty since Neolithic times. In paleontology, the amber fossil record provides a distinctive, 320-million-year-old taphonomic mode. Because of its three-dimensional matrix and its chemical properties, amber uniquely preserves a large number and variety of organisms, terrestrial, aerial, or even aquatic of different geological periods. Amber-bearing organisms encompass a wide variety of information that is helpful in the evolutionary reconstruction of ecosystems as well as organisms. Out of all, it is important to highlight the biological interactions, such as camouflage, parasitism, herbivory, predation, pollination, phoresy, eusociality, disease transmission, mimicry, etc. that will allow us to better complete the ancient puzzle of life.

Paleoecological implications of organisms in amber

Organiser

David Peris

Botanical Institute of Barcelona (CSIC), Barcelona, Spain

Thematic Session

ONCE UPON A TIME IN MEXICAN AMBER – A TALE OF TWO PIDDOCKS

B. Bojarski[1,*], K. Cierocka[2], and J. Szwedo[1]

[1]University of Gdańsk, Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Faculty of Biology, Gdańsk, Poland

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Keywords
Fossil Resins, Chiapas Amber, Pholadidae, New Taxa, Taphocoenosis

This study focuses on the fossilized piddocks from the family Pholadidae Lamarck, 1809, preserved in Mexican fossil resins. Piddocks are known for drilling into substrates such as rocks, bones, shells, corals, and xylic (wooden) material. These are typically preserved within the substrates they used to excavate. Piddocks fossils, in form of inclusions, are rare, with only two species and a few reports previously published. We examined a single piece of Chiapas amber from the Simojovel region and discovered two pholadid-like bivalve specimens within it. The larger, better-preserved specimen was identified as a possible representative of a new genus and species, while the smaller specimen was classified as a new species of ***Martesia*** Sowerby, 1824. The fossils come from the lower Miocene fossil resin, estimated to be between 15 and 20 million years old. The study utilized transmitted and reflected light microscopy to examine the specimens. We identified several features that differentiate specimens from other similar ones (extinct and extant taxa). Among them are, the presence and shape of an umbonal reflection, mesoplax, and other additional plates, or the occurrence of periostracum and the other characters. This discovery is a significant contribution to the limited knowledge of piddocks preserved in amber fossils and expands our understanding of the evolution of the superfamily Pholadoidea. The new findings offer an important opportunity to study the palaeoenvironment and taphocoenosis of Miocene fossil resins of Mexico. Moreover, further research on this group may provide insights into the evolutionary history and biology of these fascinating bivalves.