



# 2<sup>nd</sup> Palaeontological **Virtual** Congress

May 1<sup>st</sup>–15<sup>th</sup>, 2020



## **Book of Abstracts**

**Palaeontology in the virtual era**

<http://palaeovc.uv.es/>

# A new way to make science

## **2<sup>nd</sup> Palaeontological Virtual Congress**

### **Book of Abstracts**

### **Palaeontology in the virtual era**

From an original idea of Vicente D. Crespo

**Published by** Evangelos Vlachos, Esther Manzanares, Vicente D. Crespo, Carlos Martínez-Pérez, Humberto G. Ferrón, José Luis Herráiz, Arturo Gamonal, Fernando Antonio M. Arnal, Francesc Gascó, and Paolo Citton

**Layout** Evangelos Vlachos

**Conference logo** Hugo Salais

**Contact** [palaeovc@gmail.com](mailto:palaeovc@gmail.com)

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# Presentation

After the great success of the 1<sup>st</sup> **Palaeontological Virtual Congress (PVC)** organised in December 2018, we are back with the 2<sup>nd</sup> edition of the first Palaeontological meeting completely developed in a virtual environment. The original idea of implementing this format in our discipline was the natural consequence of the emergence of new technologies, which allow the wider range of communication possibilities. The importance of this kind of initiatives, that allow communication among peers without being physically present, is even more evident with the dramatic changes and exceptional situation that our society has been experiencing in the last few months. Within this context, the origin of the PVC represented the first attempt in palaeontology to take advantage of these new possibilities, becoming nowadays the most important international palaeontological congress developed in the net. This online meeting offers an exclusively virtual-developed environment to researchers all around the globe. The novelty of this project is its simplicity, and one of our main goals is to give international projection to the palaeontological research carried out by groups with limited economic resources; allowing to save expensive registration fees, travel, accommodation and maintenance expenses.

The soul of our congress has not changed, and that is trying to combine the benefits of traditional meetings (i.e., providing a forum for discussion, including guest lectures, field trips or the production of an abstract book) with the advantages of online platforms. These allow reaching a high number of researchers along the world, promoting the participation of palaeontologists from developing countries and providing a comprehensive forum for the exchange of ideas and discussion with specialists in the target field. This abstract book is the best evidence of the success of the initiative, whose figures are increasing edition after edition.

At the moment of publishing this abstract book, more than **363** researchers on palaeontology from **44** different nationalities, and **six** continents (Europe, Africa, North and Central America, South America, Asia, and Oceania), have taken part in this initiative. It is important to highlight the numerous contributions from South America, Africa, Asia, Middle East and Eastern European Countries strengthening our main goal of a palaeontological congress without barriers.

The 2<sup>nd</sup> PVC is organised in four general theme sessions (**Palaeozoic, Mesozoic, Cenozoic and General Palaeontology**), trying to span the whole variety of potential contributions. However, taking advantage of the flexibility that virtual platforms offer, **five** specific thematic sessions, encompassing topics such as **evolution and palaeobiodiversity in islands, fossil insects, palynology, outreach** and an specific session for palaeontologists in their **early career Stage** to present their works in an completely friendly environment. In total, **161** contributions are compiled in this Abstract Book, including **four key-notes** presented by Dr. **Michael J. Benton** "*Identifying the drivers of macroevolution – methods and pitfalls*"; Dr. **Anne-Laure Decombeix** "*Reconstructing the biology of Palaeozoic trees*"; Dr. **James Kirkland** and Dr. **Don DeBlieux** "*Constraining the Jurassic – Cretaceous terrestrial biota: new data from Utah helps close the gap across the atlantic basin*" and Dr. **Jesús Lozano-Fernández** "*The conquest of land by arthropods*". All those contributions presented in this volume, somehow, summarize the good health and multidisciplinary nature of our science.

Finally, 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.

Thank you all,



The Organising Committee of the 2<sup>nd</sup> PVC

# MAIN MENU



Clicking on the logo anywhere will return you to this Main Menu

**PRESENTATION**

3

**SUPPORT**

5

**ORGANIZING  
COMMITTEE**

6

**SCIENTIFIC  
COMMITTEE**

7

**KEYNOTE  
PRESENTATIONS**

12

**THEMATIC SESSION**

**Evolution and  
Palaeobiodiversity  
in Neogene and  
Quaternary  
Islands**

20

**THEMATIC SESSION**

**Fossil insects,  
their record,  
ecology and  
evolution**

29

**THEMATIC SESSION**

**Palynology  
as a tool in  
stratigraphic and  
paleoenvironmental  
research**

41

**THEMATIC SESSION**

**PalaeoVC  
Early  
career  
session**

48

**THEMATIC SESSION**

**Paleontology  
in Education  
and Society**

66

**GENERAL SESSION**

**GENERAL  
PALAEOONTOLOGY**

92

**GENERAL SESSION**

**PALAEOZOIC**

103

**GENERAL SESSION**

**MESOZOIC**

113

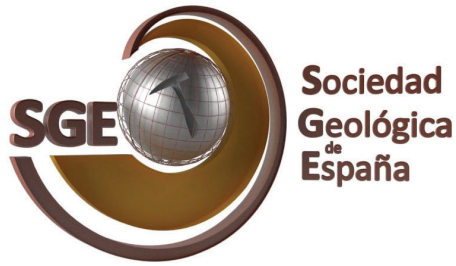
**GENERAL SESSION**

**CENOZOIC**

144

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# Organizing Committee

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Dr. Vicente D. Crespo

(Museo de la Plata (UNLP, CONICET), Museu Valencià d'Història Natural, Museo Paleontológico de Alpuente and Departament de Botànica i Geologia, Universitat de València) [vidacres@gmail.com](mailto:vidacres@gmail.com)

Esther Manzanares

(Department of Botany and Geology and Institut Cavanilles de Biodiversitat i Biologia Evolutiva, Universitat de València) [Esther.Manzanares@uv.es](mailto:Esther.Manzanares@uv.es)

## Secretary

Dr. Carlos Martínez-Pérez

(Department of Botany and Geology and Institut Cavanilles de Biodiversitat i Biologia Evolutiva, Universitat de València and University of Bristol) [Carlos.Martinez-Perez@uv.es](mailto:Carlos.Martinez-Perez@uv.es)

Humberto G. Ferrón

(University of Bristol) [humberto.ferron@bristol.ac.uk](mailto:humberto.ferron@bristol.ac.uk)

## Bursar

José Luis Herráiz

(Department of Botany and Geology and Institut Cavanilles de Biodiversitat i Biologia Evolutiva, Universitat de València) [joheca@alumni.uv.es](mailto:joheca@alumni.uv.es)

## Social networks

Fernando Antonio M. Arnal

(University of Bath) [fama25@bath.ac.uk](mailto:fama25@bath.ac.uk)

Arturo Gamonal

(Museo Paleontológico de Alpuente) [arturo-gamonal@hotmail.com](mailto:arturo-gamonal@hotmail.com)

Francesc Gascó

(Universidad Nacional de Educación a Distancia) [francisco.gasco@gmail.com](mailto:francisco.gasco@gmail.com)

## Other Members

Paolo Citton

(CONICET and Instituto de Investigaciones en Paleobiología y Geología, IIPPG); Argentina [pcitton@unrn.edu.ar](mailto:pcitton@unrn.edu.ar)

Evangelos Vlachos

(CONICET and Museo Paleontológico Egidio Feruglio, Argentina and School of Geology, Aristotle University of Thessaloniki, Greece) [evlacho@gmail.com](mailto:evlacho@gmail.com)







## Thematic Session: **Fossil insects, their record, ecology and evolution**

Palaeoentomology started in the late 18th century, shortly after the 10th edition of Linnaeus' *Systema Naturae* (the foundation of modern taxonomy), when papers on the curiosities of insects entombed in fossil resins were published. Since its beginning, palaeoentomology covered not only descriptive aspects of terrestrial arthropods (including Insecta, Chelicerata and relatives) but also reconstructions of ancient environments, ecology, evolution and phylogenies.

Over half of all described species, at least one million species worldwide, are insects. This makes them one of the major ecological and evolutionary radiations on Earth. Insects evolved into a hyperdiverse lineage that currently occupies almost every ecological niche, thanks to great diversity of life forms and developmental strategies. Insects possess a surprisingly extensive fossil record, documented back more than ~410 million years ago. Nowadays, we know better their fossil record and phylogenetic relationships, our understanding of the reasons for this diversity is growing, but still is insufficient.

Despite retreat and impediment in taxonomic research, palaeoentomological papers are now flooding the journals, due to thousands of new fossils recorded in the mid-Cretaceous Burmese amber and in other fossil insect sites. However, more attention is nowadays, and should be given in future to present the fossils in wider context, with interpretation of their palaeoecological and evolutionary role and importance.

The main goal of this thematic session is to point out the needs in both descriptive (taxonomic) and interpretational (palaeoecological, evolutionary, etc.) aspects of palaeoentomological research. We wish to discuss these issues, search for the new ways of data accumulation and elaboration, finding the solutions for better understanding of ecological and (co)-evolutionary processes. We would like also discuss the ways to share and distribute the palaeoentomological data and information.

### **Organiser**

**Dr. hab. Jacek Szwedo**

University of Gdańsk Professor Laboratory of Evolutionary Entomology and Museum of Amber Inclusions

## Table of Contents

- 31** NEW PSOCODEA FROM THE ALBIAN SPANISH AMBER AND A REVIEW OF THE PSOCIDS IN CRETACEOUS AMBERS  
*by S. Álvarez-Parra, E. Peñalver, and X. Delclòs*
- 32** TAPHONOMY OF BALTIC AMBER INCLUSIONS  
*by B. Bojarski and K. Cierocka*
- 33** TARDIGRADES AND THE EVOLUTIONS OF TERRESTRIALISATION: EXPLORING ANCIENT QUESTIONS WITH A POOR FOSSIL RECORD  
*by J. Fleming, K. Arakawa, and D. Pisani*
- 34** THE OLDEST REPRESENTATIVE OF THE ROVE BEETLE TRIBE PINOPHILINI (COLEOPTERA: STAPHYLINIDAE) FROM UPPER CRETACEOUS BURMESE AMBER  
*by J. Jenkins Shaw, B. Wang, M. Bai, and D. Żyła*
- 35** INSIGHT INTO THE PLANTHOPPER FAMILY MIMARACHNIDAE (HEMIPTERA: FULGOMORPHA) FROM BURMESE AMBER  
*by T. Jiang, J. Szwedo, and Bo Wang*
- 36** FOSSIL *EPHEDRUS* SPECIES (HYMENOPTERA, BRACONIDAE, APHIDIINAE): FROM SAKHALINIAN AMBER  
*by M.O. Kaliuzhna, E.M. Davidian, and E.E. Perkovsky*
- 37** INSECT POLLINATOR DIVERSIFICATION DURING THE CRETACEOUS  
*by D. Peris, C. C. Labandeira, E. Peñalver, X. Delclòs, E. Barrón, J. Rust, and R. Pérez-de la Fuente*
- 38** SCIENTIFIC POTENTIAL OF THE COLLECTION AT THE MUSEUM OF AMBER INCLUSIONS, UNIVERSITY OF GDAŃSK  
*by E. Sontag, B. Bojarski, D. Żyła, and J. Szwedo*
- 39** NEW SPECIMENS OF †HEXAGENITIDAE (EPHEMEROPTERA) FROM THE CRATO FORMATION (APTIAN, LOWER CRETACEOUS), BRAZIL  
*by A.P. Storari, F.F. Salles, A.A.F. Saraiva, and T. Rodrigues*
- 40** THE OLDEST REPRESENTATIVE OF PAEDERINI (COLEOPTERA, STAPHYLINIDAE) FROM LATE CRETACEOUS BURMESE AMBER AND ITS SYSTEMATIC POSITION  
*by D. Żyła, S. Yamamoto, and J. Szwedo*

Click on the title to go the Abstract

In the Abstract, click on the title to return to the Table of Contents





# Scientific Potential of the collection at the Museum of Amber Inclusions, University of Gdańsk

## E. Sontag@

Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Department of Invertebrate Zoology and Parasitology, University of Gdańsk, Gdańsk, Poland

## B. Bojarski

Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Department of Invertebrate Zoology and Parasitology, University of Gdańsk, Gdańsk, Poland

## D. Żyła

Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Department of Invertebrate Zoology and Parasitology, University of Gdańsk, Gdańsk, Poland

## J. Szwedo

Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Department of Invertebrate Zoology and Parasitology, University of Gdańsk, Gdańsk, Poland

The scientific collection of amber and its inclusions is a natural history collection that stores and shares research materials. Since the establishment of the Museum of Amber Inclusions (MAI) at the University of Gdańsk, we have been collaborating with scientists in Poland and abroad by conducting joint research projects and organising workshops and conferences. The collection consists of different types of material, which allows for undertaking various scientific projects. The main focus of the collection is Baltic amber, including unsorted and unselected material taken directly from deposits. The material available for study includes raw amber pieces, amber already prepared for identification, and pieces that are partly polished and identified to various taxonomic levels (ca. 16,000 specimens in total). The laboratory associated with the museum and its equipment offers all necessary tools for working with amber and its inclusions. Moreover, MAI is also co-operating with the Amber Laboratory of the International Amber Association and the Gdańsk University of Technology, enabling physical and chemical analyses of amber. Therefore, the MAI collection can be used in taphonomical, palaeoecological and taxonomical studies. Thanks to the collection supporting programme SPUB, we can offer accommodation and access to all facilities, collections and equipment for visiting scientists.

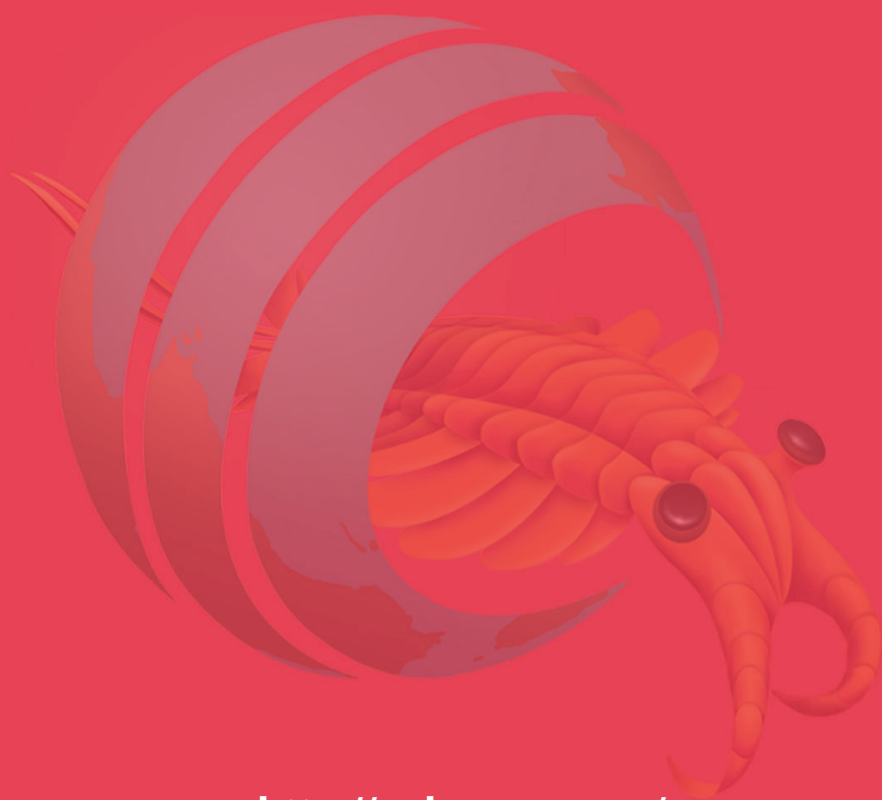


Quaternary  
3D model  
Gallotiinae  
Lacertidae



[elzbieta.sontag@biol.ug.edu.pl](mailto:elzbieta.sontag@biol.ug.edu.pl)





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