THE FOSSIL WEEK

ABSTRACT BOOK

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S1 - Ancient ecosystems trapped in amber

Keynotes

Oral communications

Diverse hemipteran insects from the Upper Triassic of Argentina

Bo Wang * [1], Maria Lara [2], Ana Zavattieri [3], Jacek Szwedo [4]

[1] State Key Laboratory of Palaeobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing 210008 – China
[2] Área Paleontología, Centro de Ecología Aplicada del Litoral—CECOAL-CCT-Nordeste-CONICET – Argentina
[3] Departamento de Paleontología, Instituto Argentino de Nivología, Glaciología y Ciencias Ambientales IANIGLA, CCT-CONICET Mendoza – Argentina
[4] Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Department of Invertebrate Zoology and Parasitology, Faculty of Biology, University of Gdańsk – Poland

In the last years, plenty of insects have been found in the Triassic continental sediments of Argentina, which is the main palaeoentomological region of South America and one of the most important from southern Gondwana, together with South Africa and Australia. The Potrerillos Formation yields abundant and diverse Carnian entomofauna with more than 300 well-preserved fossil insects within 27 species that include hemipterans, beetles, blattids, odonatans, mecopterans, orthopterans, plecopterans, grylloblattids, dipterans, hymenopterans and miomopterans. Hemiptera is the most abundant and diverse order with more than 100 specimens collected (more than 40% of the total insect fossils) and 9 species have been described so far. The abundance of hemipterans may be due to the robust and flexible nature of the forewings, increasing their preservational potential. The hemipterans come from two environmentally different sections at the south of Cerro Cacheuta, southern extreme of the Precordillera range, Mendoza Province: Puesto Miguez and Quebrada del Durazno. The hemipterans are represented by Scytinopteridae, Eoscarterellidae, Dysmorphoptilidae, Chiliocyclidae, and Protopsyllidiidae and they are preserved as impressions of complete sclerotized forewings (common element), membranous hindwing, forewing+clavus, clavus (less frequent), and complete insects (rare). Like their modern counterparts, these fossil hemipterans are phytophagous and occur in association with typical and diverse *Dicroidium* Flora which occupied middle to high palaeolatitudes (S30◦) in the extratropical belt of Gondwana, where temperate/warm and humid conditions prevailed under maximal development of the Late Triassic megamonsoonal climates. Richness and diversity of insect assemblage is remarkably high in the fluvio-deltaic sequence of the Quebrada del Durazno, whereas in the fluvial-environments of the Puesto Miguez is low. Thus, the difference of the insect content could be mainly related to different palaeoenvironmental setting, however, could also be as a response of collection/taphonomic biases. The hemipteran records in Potrerillos Formation provide evidence that Hemiptera was a key component in Late Triassic continental ecosystems. Its abundance suggests that they were probably the most dominant primary consumers within the palaeoentomofaunistic communities developed in this part of south-western Gondwana.

* Speaker