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LOS BAÑOS 

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13th International Workshop on Leafhoppers
and Planthoppers of Economic Importance

*“Auchenorrhyncha
without borders”*

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PLENARY SPEAKER



JACEK SZWEDO, Ph. D., DSc. Habil.

Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Department of Invertebrate Zoology and Parasitology, Faculty of Biology, University of Gdańsk, 59, Wita Stwosza St., PL80-308 Gdańsk, Poland

THE HOPPER'S EVOLUTIONARY PATHWAYS – NODES, BOONS & BOTTLENECKS

The 'auchenorrhynchous hoppers', which include planthoppers, cicadas, froghoppers, leafhoppers, treehoppers and their relatives, form a large group of hemipterans, with approximately 47,000 described species. Their evolutionary history dates back to the Carboniferous period. Since then, numerous origins, extinctions, ecological and co-evolutionary shifts and challenges have existed. These tortuous paths have led to the current views of the relationships, the proposals for classification and the understanding of evolutionary history. The evidence from fossil records challenges molecular interpretations based on modern crown groups and morphological data and their interpretations are often incongruent with them. The relationships between lineages, within 'auchenorrhynchous hoppers' and with other hemipterans are the subject of ongoing discussions. Their evolutionary history has been shaped by various abiotic and biotic events that have created both bottlenecks and opportunities, promoting some lineages and limiting others. These stories are carved in rocks and entombed in the fossilized resins, but also in the insects' genetic heritage, microbiome, their relationships with host plants and other organisms, and distributional patterns. The current taxonomic diversity, morphological disparity, ecological interactions, distribution, and the resulting classifications of the 'auchenorrhynchous hoppers' results from these past events and insects' reactions to environmental challenges and opportunities. Any new proposal for classification, relationships, or evolutionary scenarios must consider these factors.