

Foreword

The 3rd of June, 2015, marked the 20th anniversary of Joseph POELT's death. On this occasion students of his and again their students, as well as some more scientists with whom Josef POELT had cooperated, met at a three days' scientific conference in Graz, Austria, in September 2015. The event was organized as a KERNER-VON-MARILAUN workshop. This is a series of events in which the Austrian Academy of Sciences, and especially its Committee of Interdisciplinary Ecological Studies (KIÖS), promotes the compilation and scientific discussion of biosystematic and ecologic results as well as their publication.

The venue of this event was the Institute of Plant Sciences of the Karl-Franzens-University Graz, where Josef POELT had acted as a full professor of Botany during the last 24 years of his life. His scientific interest was dedicated to diversity and distribution of plants and fungi with focus on cryptogams, among which not only lower plants such as algae, mosses and ferns are ranked, but also fungi, fungi-like organisms and lichens. Joseph POELT searched for and collected samples of cryptogams in general and of lichens in particular during countless short and long excursions, whose destinations were near and far areas, and he analysed these samples according to systematics and ecology, taking into account the biocenoses of the individual species and interactions occurring between them in their respective habitats. In the meantime, his collection to which also his students and colleagues contributed and continue to do so, grew to one of the most important collections of lichens in the world.

As a university teacher he paved the way to his scientific fields of study for many students and thus could get numerous colleagues who pass on and amplify his experiences. The success of his scientific activities is reflected by a high number of publications of his own and many others with co-authors. Many other papers had been initiated by him. His significance is reflected by the discussion of his studies in the scientific community.

The remarkable width of the groups of organisms treated by Josef POELT can also be seen from the priorities set later on by his students and their students. The individual contributions in this volume are based on lectures given at the above-mentioned event. The first contribution by Hannes HERTEL describes Josef POELT's life and scientific career, his fields of study, his colleagues, important research trips, his scientific oeuvre and its approval within the scientific community. In the second contribution FRANZ OBERWINKLER gives an overview of history and development of cryptogamic research in view of more and more refined analysis techniques and the resulting outcome.

Peter DÖBBELER starts the mycological part with his studies of tiny hypocrealean Ascomycetes, visible only under the microscope and growing on mosses. Josef HAFELLNER continues with a treatment of diversity and taxonomy of

lichenicolous fungi. The investigation of rust fungi with respect to host range and occurrence particularly in Austria was a topic especially important to Josef POELT. Reinhard BERNDT, Peter ZWETKO and Paul BLANZ have dedicated their contributions to this group of basidiomycetes, while Dominik BEGEROW and Martin KEMLER deal with smut fungi. Chee-Jen CHEN describes phylogeny and cultivation of *Tremella* species in his paper, with special focus on their significance in Taiwan. Zhu-L. YANG, Quing CAI and Yang-Yang CUI characterize phylogeny, diversity and morphological evolution in the genus *Amanita*. A broad overview of the ultrastructure of basidiomycetes with regard to functionality is given by Franz OBERWINKLER and the late Robert BAUER.

Dirk HOFFMEISTER looks into natural metabolites of fungi from a biochemical perspective, and Ingeborg HAUG describes tropical mycorrhizae from Ecuador. Roland KIRSCHNER gives an overview of fungi living on leaves and Ewald LANGER presents an assessment of forestal ecosystems based on the presence of aphyllorphorean fungi. Gitta LANGER deals with occurrence and distribution of parasitic fungi in northwest German forests. An insight into the present state of investigation on tropical fungi is given by Meike PIEPENBRING, Hermine LOTZ-WINTER and Tina Antje HOFMANN. Andreas BRESINSKY works out the details of the state of research as to fungi of Bavaria with special regard to the part Josef POELT played in this research.

The second group of organisms in this volume comprises lichens, the central topic in Joseph POELT's own scientific oeuvre. With regard to this group, Martin GRUBE starts with a characterization of the lichen thallus as microbial habitat, pointing out that lichens are far more than only a symbiosis of algae and fungi. Rosemarie HONEGGER describes fossil lichens in amber from the Lower Devonian. Volkmar WIRTH, Ulf SCHIEFELBEIN and Birgit LITERSKY report on the lichen flora of Germany with special respect to regional differences. Peter Othmar BILOVITZ and Helmut MAYRHOFER pave the way towards a checklist of the lichens of the Alps. Walter OBERMAYER reports on the lichenological exploration of the greater Tibetan region with special reference to Austrian scientists and explorers, among them also Josef POELT. Pier Luigi NIMIS presents an overview of the "Golden Period" of Italian lichenology and its importance in modern times. Joseph POELT's interest in mosses is considered in the last contribution to this volume where Martin NEBEL and Anna K. BEIKE explain how molecular phylogenetics improve our understanding of bryophyte evolution, morphology and ecology.

The editor of this volume would like to express his warmest thanks to the Styrian government and to the Graz university for financial support regarding the realisation of this KERNER-VON-MARILAUN-workshop as well as to the Austrian Academy of Sciences. The editor is grateful to the latter, and especially to the chairwoman of the Committee of Interdisciplinary Ecological Studies, Professor Verena WINIWARTER and to Karin WINDSTEIG, who generated the lay-

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Paul BLANZ

