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Poster Abstract Book

light illumination. Brefeldin A (BFA), the inhibitor of endosomal recycling, inhibits blue-light induced root phototropism as well as the endocytic recycling of PHOT1 by trapping it within BFA-induced endosomal compartments. The size of these compartments reflects the intensity of blue light illumination. The formation of BFA-induced compartments can be inhibited by pre-treatments of seedlings with latrunculin B and wortmannin. All this suggest that F-actin and PI(3)K dependent endosomal recycling of PHOT1 is part of the blue-light signalling cascade in plant cells.

P10: HALOPHYTES

P10: 1

Halophytic vegetation of the Dominican Republic and their ecophysiological adaptations

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Halophytic vegetation occurs in the Dominican Republic along the coast, oncoastal dunes, in the mangroves and along inland salt lake. Typical plantspecies of the coastal saline habitats are e.g Cakile lanceolata, Ipomoeapes-caprae, Sesuvium portulacastrum, Blutoperon verniculare, Heliotropium curassavicum. Rhizopohora mangle, Laguncularia racemosa, Avicenniagerminans andConocarpus erectus and the mangrove ferns Acrostichumaureum and A. danaefolium occurs in the mangrove swamps. Regarding the salinity the inland lake Lago Enriquillo is one of the most extreme habitat (salt concentration up to 7.1%). Along its shores e.g. Batis maritima, Sesuvium portulacastrum and Salicornia perennis can be found. The salt tolerance and ecophysiologcial adaptations of different populations of the mangrove fern A. danaefolium and the coastal halopyhes B. maritima and S. portulacastrum were investigated. The distinct accumulation of NaCl in the roots of A. danaefolium can be interpretated as a major strategy to prevent toxic salt effects in the leaves and can the mangrove fern can be characterzied as a pseudohalophyte. B. maritima and S. portulacastrum aretypical halo-succulents.

P10: 2

The use of halophytes for rehabilitation of salt effected soils in northeast Brazil

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In drylands salinity is often very prominent, caused by the input of sodium chloride and other salts and the lack of drainage In this environment the excesses of soluble salts in the soils have a large influence on the ecosystems and productivity in extensive areas. Halophytes may serve to improve the ecosystem production. They are model plants for the understanding of the adaptation strategies in such habitats. Aim of the presented study was to identify suitable plants for their reestablishment on saline soils in the region. The survey included 23 common species from 8 families. Samples were collected in the rainy and dry season in a period of three years. The cations Na^+, K^+, $Ca2^+$ and Mg^+ were analysed. Great variations of salt content among the plants could be found and highest content of sodium and chloride were found in Sesuvium portulacastrum (Aizoaceae) and Blutaparon vermiculares (Amarantaceae). It was also verified, that most of those plants are able to growth on degraded saline soils and they are possible candidates for the rehabilitate degraded soils.

P10: 3

Ecophysiology and usability of xero- and halophytes at dry and saline habitats: Learning by studying the experts

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Environmental abiotic stress conditions, and especially drought and salinity, are currently the major factors which reduce crop yields world-wide. One way to supply the demand is to develop sustainable biological production systems which can tolerate higher water salinity. The sustainable use of halophytic plants is a promising approach to valorize strongly salinised zones unsuitable for conventional agriculture and mediocre waters. Halophytes include a large taxonomic variety and occupy diverse habitats, from extreme dry to temporarily waterlogged sites or salt marshes. The development of cash crop halophytes and the breeding of salt resistant crop varieties will require a clear understanding of the complex mechanisms of salt stress tolerance, which we are still lacking despite intensive research during the last decade. Salinity can affect any process in the plant's life cycle, so that tolerance will involve a complex interplay of characters. Research projects investigated details of the physiology and biochemistry of salt tolerance and also searched for methods to screen overall plant performance that could be used in breeding programmes. Considering the complexity of the mechanisms of salt tolerance, it seems worthwhile to compare the responses to salt stress in plants with different levels of tolerance. This approach may help to establish which of the observed responses are general and essential for salt tolerance, and which are not.

P11: HISTORY OF BOTANY

P11: 1

History of vegetation's research in Siberia: 18th century scientists' contribution

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Nature of Siberia remained as "terra nova" until the beginning of 18th century. Professor of medicine D. G. Messerschmidt was the first who started to search unique Siberia nature, its aboriginal population culture and language, local climate, etc. in 1721. It must be difficult to overestimate his scientific heritage: he discovered more than 380 unknown high vascular plant species. Naturalist, professor J. Gmelin was invited to work in Russia in 1727 and several years later he was a participant the 2nd Kamchatka expedition which lasted 10 years. The Gmelin's outstanding 4 volumes book "Flora Rossica" based on his investigations in Siberia includes descriptions of 1178 plant species and 294 illustrates. His and Messerschmidt's herbarium collections are partly kept in Stuttgart, Germany. Substantial studies has also been carried out by count