

TABLE OF CONTENTS

EDITORS' PREFACE	3
TABLE OF CONTENTS	4
GENERAL LECTURES	
MILOSLAV ŠIMEK, VÁCLAV KRIŠTŮFEK: Methodological Approaches for Study of Biodiversity in Soils	8
KLEMENT REJŠEK: Soil Microbial Communities, Activity and Biodiversity: Interactions among Biota and its Abiotic Environment	12
PHOSPHOLIPID FATTY ACIDS	
DANA ELHOTTOVÁ: Fatty Acids Pattern in Characterization of Soil Microbial Community in Process of Primary Succession on Post-mining Sites	17
JAN FROUZ, DANA ELHOTTOVÁ: The Effect of Soil Fauna on Microbial Community in Post-mining Sites - Preliminary Data from Microcosm Experiment	22
MARTIN RULÍK, JARMILA LAMAČOVÁ, PETR BARTÁK, MARTIN DUCHOSLAV, JAROSLAV HORKÝ, PAVEL HUCKO: Characterization of Microbial Communities in Reservoir and River Sediments by Phospholipid Fatty Acids Analysis	26
ERIKA M. TÓTH, TAMÁS TAUBER, HAJNA KOVÁCS, VERONIKA BOHUS, ANDREA K. BORSODI, SÁRA RÉVÉSZ, KÁROLY MÁRIALIGETTI: Evaluation of Biodiversity by Respiratory Quinone (RQ) and Phospholipid Fatty Acids (PLFA) Analysis in Different Soils and Sediments	31
BARBORA ČERNÁ, DANA ELHOTTOVÁ, HANA ŠANTRŮČKOVÁ: Growth and Composition Characteristics of Functional Groups of Soil Microbial Community	38
ANDRÁS HALBRITTER, TAMÁS MOGYORÓSSY: Rhizosphere Effect in a Peat Soil demonstrated via Phospholipid Fatty Acid (PLFA) Indication	43
JIŘÍ JIROUT, JIŘÍ PETRÁSEK, DANA ELHOTTOVÁ, VÁCLAV KRIŠTŮFEK, ALENA NOVÁKOVÁ, JOSEF RUSEK: Application of Microbial Identification System (Sherlock MIS) for Identification of Forest Litter Bacterial Strains – Preliminary Results	47
MÁRIUS BYSS: PLFA Analysis Using GC-MS/MS Technique as a Useful Tool for Characterization of Microbial Communities in Soil Heavily Contaminated by Polycyclic Aromatic Hydrocarbons and Their Derivates	52
ZDENĚK FILIP, SUSANNE HERMANN, MARTA TESAŘOVÁ: FT-IR Spectroscopic Fingerprints of Soil Biomass and Different Bacteria	55

BIOLOG SYSTEM

STANISLAV MALÝ:

Biolog Metabolic Profiles of Soil Microbial Communities on Colliery Spoil Heaps and in Agricultural Soils of the Czech Republic

60

JAKUB HOFMAN, JIŘÍ ŠVIHÁLEK, MARTIN NEČAS:

Evaluating the Functional Diversity of Soil Microorganisms Using the BIOLOG Method in Situ Studies and Laboratory Test of Toxicity

67

ANDREA K. BORSODI, PÉTER VLADÁR, ANNA RUSZNYÁK, ERIKA M. TÓTH,

KÁROLY MÁRIALIGETTI:

Application of BIOLOG Metabolic and DGGE Genotyping Fingerprint Methods for Studying Sediment Bacterial Communities of Hungarian Soda Lakes

73

PETR BALDRIAN, JAROSLAV ŠNAJDR:

Effect of Wood-rotting Fungi on Soil Microbial Populations during Bioremediation

79

DNA ANALYSIS

TAMÁS MOGYORÓSSY, ANDRÁS HALBRITTER:

Setting Up and Using the BOX-PCR Technique for Rapid, Low Cost Genotyping Characterisation of Bacterial Isolates

84

PATRICK HILL, VÁCLAV KRIŠTŮFEK, SUSANNA CABALLERO, DAVID KROETSCH, OTA RAUCH:

Characterising Contrasting Soils and Sediments with Semi-specific Actinomycete r-DNA PCR Primers

88

ALICA CHROŇÁKOVÁ, ANDRÁS HALBRITTER, VÁCLAV KRIŠTŮFEK, BÓRBALLA BIRÓ:

Analysis of Bacterial Isolates and Community DNA from Four Different Succession Plots in Post-mining Area

93

PÉTER VLADÁR, BALÁZS VAJNA, ANDREA K. BORSODI, KÁROLY MÁRIALIGETTI:

Genus Level DGGE Analysis for Species of Desulfovibrionaceae Derived from Reed Rizosphere Samples of a Hungarian Soda Lake

97

JOLANA VOSÁHOVÁ, ALENA VALETOVÁ, VLADIMÍR BRENNER:

Molecular Methods for Identification of Microorganisms in Soils (DGGE)

102

BÁLINT OLDAL, MÁRTA VARGHA, ISTVÁN JEVCSÁK, MIHÁLY KECSKÉS:

Characteristic Bacterial Forms of Upper Tisza River under Cyanide and Heavy Metal Pollution

105

EVA JINDROVÁ, WILLIAM J. HICKEY, DIETMAR H. PIEPER, KATEŘINA DEMNEROVÁ,

VLADIMÍR BRENNER:

Biodiversity of the Genes Responsible for Chlorobenzoates Catabolism: the Use of DGGE Analysis

111

EDITA RYŠLAVÁ, ZDENĚK KREJČÍK, TOMÁŠ MACEK, LUCIE KOCHÁNKOVÁ,

KATARINA BERÁNKOVÁ, MARTINA MACKOVÁ:

PCR Protocol for Detecting Polychlorinated Biphenyl Degradation Genes in Polluted Soil

116

MAREK KOUTNÝ, MARTIN BRASTER, HENK M. VAN VERSEVELD:

Isolation of Bacterial DNA from very Humic Steppe Soils and Subsequent DGGE Fingerprinting

120

LIST OF PARTICIPANTS

124

SPONSORS

126