

Contents

Metalloenzymes Involved in the Metabolism of Reactive Oxygen Species and Heavy Metal Stress	1
José M. Palma, Dharmendra K. Gupta and Francisco J. Corpas	
Metal Transporters in Plants	19
Ondrej Zitka, Olga Krystofova, David Hynek, Pavlina Sobrova, Jozef Kaiser, Jiri Sochor, Josef Zehnalek, Petr Babula, Nuria Ferrol, Rene Kizek and Vojtech Adam	
Biochemistry of Metals/Metalloids Toward Remediation Process	43
Magdalena Victoria Monferrán and Daniel Alberto Wunderlin	
Role of Phytochelatins in Heavy Metal Stress and Detoxification Mechanisms in Plants	73
Dharmendra Kumar Gupta, Hildegard Vandenhove and Masahiro Inouhe	
Detoxification and Tolerance of Heavy Metal in Tobacco Plants	95
Huagang Huang, Yan Shen, B. H. N. Razafindrabe, Sanjay Kumar Chaudhary and Dharmendra Kumar Gupta	
Heavy Metal Uptake and Tolerance of Charophytes	111
Takashi Asaeda and Tanjeena Zaman	
Molecular Mechanisms Involved in Lead Uptake, Toxicity and Detoxification in Higher Plants	121
B. Pourrut, M. Shahid, F. Douay, C. Dumat and E. Pinelli	
Interpopulation Responses to Metal Pollution: Metal Tolerance in Wetland Plants	149
Enrique Mateos-Naranjo	
Intraspecific Variation in Metal Tolerance of Plants	163
David W. M. Leung	

Metallomics and Metabolomics of Plants Under Environmental Stress Caused by Metals	173
J. L. Gómez Ariza, T. García-Barrera, M. A. García-Sevillano, M. González-Fernández and V. Gómez-Jacinto	
Biogeochemical Cycling of Arsenic in Soil-Plant Continuum: Perspectives for Phytoremediation	203
Hossain M. Anawar, A. García-Sánchez and M. Zayed Hossain	
Evaluation of the Potential of Salt Marsh Plants for Metal Phytoremediation in Estuarine Environment	225
C. Marisa R. Almeida, A. Cristina Rocha, Ana P. Mucha and M. Teresa S. D. Vasconcelos	
Index	241