

CONTENTS

Preface		vii
Acknowledgments		xi
Chapter 1	Bedrock and Geochemical Controls on Extremophile Habitats <i>Dawn Cardace, D'Arcy R. Meyer-Dombard, Amanda A. Olsen and M. Niki Parenteau</i>	1
Chapter 2	The Ecology and Evolution of Mycorrhizal Fungi in Extreme Soils <i>Shannon Schechter and Sara Branco</i>	33
Chapter 3	Lichens on Metal-Rich Substrates <i>Sergio Enrico Favero-Longo</i>	53
Chapter 4	Evolution of Salt Tolerance in Angiosperms: A Phylogenetic Approach <i>C. Haris Saslis-Lagoudakis, Camile Moray and Lindell Bromham</i>	77
Chapter 5	The Ecology, Assembly and Evolution of Gypsophile Floras <i>Michael J. Moore, Juan F. Mota, Norman A. Douglas, Hilda Flores Olvera and Helga Ochoterena</i>	97
Chapter 6	Physiological Adaptations of Plants to Serpentine Soil <i>Emily R. Palm and Elizabeth Van Volkenburgh</i>	129
Chapter 7	Ecology and Evolution of Plants in Arctic and Alpine Environments <i>Amy L. Breen, David F. Murray, Martha K. Raynolds, Ina Timling and Donald A. Walker</i>	149
Chapter 8	Drivers of Diversity in Evergreen Woody Plant Lineages Experiencing Canopy Fire Regimes in Mediterranean-Type Climate Regions <i>Michael C. Vasey and V. Thomas Parker</i>	179

Chapter 9	The Evolutionary Ecology and Genetics of Stress Resistance Syndrome (SRS) Traits: Revisiting Chapin, Autumn and Pugnaire (1993) <i>Eric J. B. von Wettberg, Jayanti Ray-Mukherjee, Nathan D'Adesky, Damian Nesbeth and Seeta Sistla</i>	201
Chapter 10	Ecology and Evolution of Metal-Hyperaccumulating Plants <i>Robert S. Boyd</i>	227
Chapter 11	Methods and Discoveries in the Pursuit of Understanding the Genetic Basis of Adaptation to Harsh Environments in <i>Mimulus</i> <i>Jessica P. Selby, Annie L. Jeong, Katherine Toll, Kevin M. Wright and David B. Lowry</i>	243
Chapter 12	Bryophytes: Survival in a Dry World through Tolerance and Avoidance <i>Dale H. Vitt, Barbara Crandall-Stotler and Andrew Wood</i>	267
Chapter 13	Climate Change and the Future of Edaphic Floras <i>Barbara Fernandez-Goñi</i>	297
Chapter 14	Conservation and Restoration of Chemically Extreme Edaphic Endemic Flora in the Western US <i>Ryan E. O'Dell</i>	313
Chapter 15	Phytoremediation and Phytomining: Using Plants to Remediate Contaminated or Mineralized Environments <i>Rufus L. Chaney, Roger D. Reeves, Ilya A. Baklanov, Tiziana Centofanti, C. Leigh Broadhurst, Alan J. M. Baker, Antony van der Ent and Richard J. Roseberg</i>	365
Chapter 16	Synthesis and Future Directions: What Have Harsh Environments Taught Us about Ecology, Evolution, Conservation, and Restoration? <i>Nishanta Rajakaruna, Robert S. Boyd and Tanner B. Harris</i>	393
Editors' Contact Information		411
Species Index		413
Subject Index		419