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Nota di contenuto	Chapter 1. The Multifaceted life of microbes: Survival in varied environments -- Chapter 2. Thermophilic and Halophilic prokaryotes Isolated from Extreme Environments of Armenia and their Biotechnological Potential -- Chapter 3. Microbial life at extreme of salt concentration: adaptation strategies -- Chapter 4. Rhizobia at extremes of acidity, alkalinity, salinity, and temperature -- Chapter 5. Mechanism of microbial adaption and survival within psychrophilic habitat -- Chapter 6. Secretome of microbiota in extreme conditions -- Chapter 7. Deciphering the key factors for heavy-metal resistance in gram negative bacteria -- Chapter 8. Bioactive compounds from extremophiles -- Chapter 9. Metalotolerant bacteria: Insights into the

bacteria thriving in the metal contaminated areas -- Chapter 10. Endophytic actinomycetes mediated Modulation of Defense and Systemic Resistance confers host plant fitness under biotic stress conditions -- Chapter 11. Microbial life in stress of oxygen concentration: physio-chemical properties and applications -- Chapter 12. Bacterial metabolic fitness during pathogenesis.

Sommario/riassunto

The book compiles the latest studies on microorganisms thriving in extreme conditions. Microbes have been found in extremely high and low temperatures, highly acidic to saline conditions, from deserts to the Dead sea, from hot-springs to underwater hydrothermal vents- the diversity is incredible. The various chapters highlight the microbial life and describe the mechanisms of tolerance to these harsh conditions, and show how an understanding of these phenomena can help us exploit the microbes in biotechnology. The theme of the book is highly significant since life in these environments can give vital clues about the origin and evolution of life on earth, as a lot of these conditions simulate the environment present billions of years ago. Additionally, the study of adaptation and survival of organisms in such environments can be important for finding life on other planets. This book shall be useful for students, researchers and course instructors interested in evolution, microbial adaptations and ecology in varied environments.