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Nota di contenuto	Cover -- Title -- Copyright -- End User License Agreement -- Contents -- Preface -- List of Contributors -- Biotoxins in the Mediterranean Sea: Lebanon as a Case Study -- Abed El Rahman Hassoun ^{1,3,*} , Ivana Ujevi ² , Milad Fakhri ¹ , Romana Roje-Busatto ^{2,*} , Céline Mahfouz ¹ , Sharif Jemaa ¹ and Nikša Nazli ² -- INTRODUCTION -- Lipophilic Toxins (LTs) -- The Cyclic Imines (CIs) -- Poisoning by Marine Biotoxins -- Worldwide Cases of Poisoning -- Poisonings in the Mediterranean Sea -- STUDY AREAS AND METHODOLOGY -- Areas and Species Studied -- METHODS OF ANALYSIS -- Physico-chemical Parameters -- Phytoplankton Analysis -- Biotoxin Analysis -- RESULTS -- Biotoxins Present -- Amnesic Shellfish Poisoning Toxin -- Domoic Acid (DA) -- Cyclic Imines (CIs) -- Gymnodimines (GYMs) -- Spirolides (SPXs) -- Physico-chemical Parameters -- PHYTOPLANKTON POPULATIONS -- DISCUSSION -- Marine biotoxins in Lebanon and the Mediterranean Sea -- Sentinel Species for Monitoring Marine Biotoxins -- Biotoxin Producers -- What Do We Know? -- What Do Not We Know? -- Toxicity and Regulations for the Biotoxins Detected -- Contamination in Non-shellfish Species -- Biotoxins and Climate Change -- CONCLUSION AND RECOMMENDATIONS -- ACKNOWLEDGEMENTS -- REFERENCES -- Short-Term Bioassay Tests for Toxicity Effluents Estimation and Bio-Monitoring Uses in Aquatic

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Sommario/riassunto

Pollution of the aquatic environment is a real threat across the globe. It is becoming a topic of intense study for researchers. It has been updated and almost completely revised. The Mediterranean Sea has been recognized as a target hotspot of the world as the pollutant concentration in this region is greater than the levels in other oceans. The book summarizes research on marine pollutants in the Mediterranean Sea. It presents 5 concise reviews focusing on microplastics, rare earth elements and biotoxins - which are now commonly found in the region. The Editors also emphasize on pollution problems in the Mediterranean region, with 2 chapters presenting studies on Lebanon and Morocco, respectively. The book adds to the collective information on Mediterranean marine pollution. Additionally, references are included at the end of each chapter for the benefit of advanced readers. The contributions also include discussions on important techniques used to monitor and control marine pollution, such as the bio-monitoring of effluents, and ecological impact assessment of microplastic pollution on fish and the environment. Audience Students and researchers in environmental science programs; policymakers in Mediterranean environmental agencies.