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Nota di contenuto	Cover; Table of Contents; Title Page; Copyright; List of contributors; Preface; Chapter 1: Analysis of marine toxins: gaps on food safety control of marine toxins; Analysis of marine toxins and gaps on food safety control; Gaps on food safety control for marine toxins by chemical methods; Use of standards; New risks in the EU; References; Chapter 2: Pharmacology of ciguatoxins; Chemical structure of ciguatoxins; Voltage-gated sodium channels; Neurological symptoms of ciguatera; Physiological effects of ciguatoxin; Ciguatoxin neurotoxicity; Ciguatoxins, neurological perspectives; References Chapter 3: Chemistry of pinnatoxinsIntroduction; Isolation; Bioactivity; Detection; Total chemical synthesis; Chemical stability; Conclusions; References; Chapter 4: Chemistry and analysis of PSP toxins; Introduction; Methods of analysis; Chemical methods; References; Chapter 5: Chemistry of palytoxin and its analogues; Introduction; Palytoxin; Palytoxin's analogues from <i>Ostreopsis</i> spp; <i>Ostreocins</i> from <i>O. siamensis</i> ; References; Chapter 6: Pharmacology of palytoxins and <i>ostreocins</i> ; Introduction; Origin and producing organisms; Toxin distribution and ecological aspects Pharmacological target of PLTXsPalytoxin toxicology; Detection methods; Future perspectives; References; Chapter 7: Recent insights

into anatoxin-a chemical synthesis, biomolecular targets, mechanisms of action and LC-MS detection; Anatoxin-a and analogues; Anatoxins' biomolecular targets and mechanisms of action; LC-MS detection; Conclusions and perspectives; Acknowledgements; References; Chapter 8: Therapeutics of marine toxins; Introduction; Marine toxins as a source of therapeutic compounds; Present marine toxins and derived compound uses

Future of marine toxins and derived compounds uses Problems and advancements in drug discovery from the seas; Conclusions; References; Chapter 9: Marine toxins as modulators of apoptosis; Introduction; Phycotoxins involved in apoptotic processes; Non-apoptotic cytotoxicity of phycotoxins; References; Chapter 10: Cyanobacterial toxins; Introduction; Chemistry of cyanotoxins; Distribution of cyanotoxins; Acknowledgments; References; Chapter 11: Marine toxins and climate change: the case of PSP from cyanobacteria in coastal lagoons; Introduction Definition of coastal lagoons and main ecosystem characteristics Ecosystem goods and services and human exploitation of coastal lagoons; Eutrophication and climate change in coastal lagoons; Cyanobacteria in coastal lagoons; Paralytic shellfish poisoning and cyanobacteria in coastal lagoons; Conclusions; References; Chapter 12: Microalgae as a source of nutraceuticals; Introduction; Microalgal taxa; World biodiversity of microalgae; Microalgae in culture collections and under commercial cultivation; Commercial use of microalgae as nutraceuticals; Categories of nutraceuticals from microalgae Cholesterol-lowering activity

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## Sommario/riassunto

Phycotoxins are a diverse group of poisonous substances produced by certain seaweed and algae in marine and fresh waters. They are important to the scientific community for many reasons, the most obvious being that they pose food safety issues, and regularly monitoring the presence of these compounds in foods requires a large investment. Phycotoxins: Chemistry and Biochemistry, second edition presents the most updated information available on phycotoxins. Major emphases are given to chemistry and biochemistry, and origins, mechanisms of action, toxicology and analytical methodology are also

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