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algae against consumers; 3.5 Favoured allocation of defensive metabolites in vulnerable and valuable parts of marine invertebrates and algae; 3.6 The flexible response: stress-induced accumulation of defence metabolites and activation of protoxins; 3.7 Endosymbionts as sources for allelochemicals found in marine invertebrates; 3.8

Conclusions and outlook

4 Plant-Microbe Interactions and Secondary Metabolites with Antibacterial, Antifungal and Antiviral Properties 4.1 Introduction; 4.2 Phytoalexins; 4.3 Antibacterial and antifungal agents of higher plants; 4.4 Secondary metabolites from higher plants with antiviral properties; 4.5 Conclusions; 5 New Medical Applications of Plant Secondary Metabolites; 5.1 Introduction; 5.2 Compounds with anticancer and chemopreventive activity; 5.3 Antiviral compounds; 5.4 Antimalarial drugs; 5.5 Anti-inflammatory drugs; 5.6 Antidepressant drugs; 5.7 Anti-ischaemic drugs; 5.8 Immunostimulatory drugs 5.9 Conclusions 6 Production of Natural Products by Plant Cell and Organ Cultures; 6.1 Introduction; 6.2 Production of natural products by cell and organ cultures; 6.3 Elicitation; 6.4 Increase/decrease of product yields by genetic manipulation; 6.5 Biosynthetic pathways delineation using RNA-interference; 6.6 Mass cultivation of plant cell cultures; 6.7 Production of recombinant proteins by plants and plant cell cultures; 6.8 Production of plant natural products in microbes; 6.9 Perspectives; Index; Colour plate (between pages 50 and 51)

Sommario/riassunto

This important volume commences with an overview of the modes of action of defensive secondary metabolites, followed by detailed surveys of chemical defense in marine ecosystems, the biochemistry of induced defense, plant-microbe interactions and medical applications. A chapter is also included covering biotechnological aspects of producing valuable secondary metabolites in plant cell and organ cultures. This is a comprehensive and fully updated new edition, edited by Professor Michael Wink and including contributions from many internationally acknowledged experts in the field.
