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| Nota di contenuto | ANNUAL PLANT REVIEWSVOLUME 39; CONTENTS; List of contributors; Preface; 1 Introduction; 1.1 Ecological function of secondary metabolites; 1.2 Presence of defence and signal compounds at the right time and place; 1.3 Molecular modes of action of SM; 1.4 Biotechnology and utilization of SM; 1.5 Conclusions; 2 Molecular Modes of Action of Defensive Secondary Metabolites; 2.1 Introduction; 2.2 Molecular modes of action - an overview; 2.3 Accumulation of defence and signal compounds in plants; 2.4 Animal responses: detoxification mechanisms and adaptations; 2.5 Concluding remarks 3 Chemical Defence in Marine Ecosystems3.1 Introduction; 3.2 Marine natural products in allelopathic interactions; 3.3 Chemical defence against fouling; 3.4 Chemical defences of marine invertebrates and 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 Properties4.1 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
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chemopreventive activity; 5.3 Antiviral compounds; 5.4 Antimalarial
drugs; 5.5 Anti-inflammatory drugs; 5.6 Antidepressant drugs; 5.7
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5.9 Conclusions6 Production of Natural Products by Plant Cell and
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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.
