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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Foreword; Michael Ruse -- Philosophy of Biology and Biology Education: An Introduction; Kostas Kampourakis -- What is life?; Carol Cleland and Michael Zerella -- Biological Explanation; Angela Potochnik -- What would Natural Laws in the Life Sciences be?; Marc Lange -- The Nature of Evolutionary Biology: at the borderlands between Historical and Experimental Science; Massimo Pigliucci -- Evolutionary Theory and the Epistemology of Science; Kevin McCain & Brad Weslake -- Conceptual Change and the Rhetoric of Evolutionary Theory: 'Force Talk' as a case study and Challenge for Science Pedagogy; David Depew -- Debating the Power and Scope of Adaptation; Patrick Forber -- Biology and Religion: The Case for Evolution, Francisco Ayala -- The Implications of Evolutionary Biology for Religious Belief; Denis Alexander -- Intelligent Design and the Nature of Science: Philosophical and Pedagogical Points, Ingo Brigandt -- Molecular Evolution, Michael Dietrich -- Educational Lessons from Evolutionary Properties of the Sexual Genome; John Avise -- Non-genetic Inheritance and Evolution; Tobias Uller -- Homology, Alessandro Minelli & Giuseppe Fusco -- Teaching Evolutionary Developmental Biology: Concepts, Problems and Controversy; Alan Love -- Philosophical Issues in Ecology, James Justus -- Small Things, Big Consequences: Microbiological Perspectives on Biology; Michael J. Duncan, Pierrick

Bourrat, Jennifer DeBerardinis, & Maureen O' Malley -- Essentialism in Biology; John Wilkins -- Biological Teleology: the Need for History; James Lennox & Kostas Kampourakis -- Biology's Functional Perspective: Roles, Advantages and Organization; Arno Wouters -- Understanding Biological Mechanisms: Using Illustrations from Circadian Rhythm Research; William Bechtel -- Information in the Biological Sciences; Alfredo Marcos and Robert Arp -- Systems Biology and Education; Pierre Alain Braillard -- Putting Mendel in His Place: How Curriculum Reform in Genetics and Counterfactual History of Science Can Work Together; Annie Jamieson & Gregory Radick -- Against "Genes For": Could an Inclusive Concept of Genetic Material Effectively Replace Gene Concepts?; Richard Burian & Kostas Kampourakis -- Current Thinking about Nature and Nurture, David Moore -- Genomics and Society: Why "Discovery" Matters; Lisa Gannett -- Philosophical Issues in Human Pluripotent Stem Cell Research; Andrew Siegel -- Ethics in Biomedical Research and Practice; Anya Plutynski -- Environmental Ethics; Roberta Millstein.

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Sommario/riassunto

This book brings together for the first time philosophers of biology to write about some of the most central concepts and issues in their field from the perspective of biology education. The chapters of the book cover a variety of topics ranging from traditional ones, such as biological explanation, biology and religion or biology and ethics, to contemporary ones, such as genomics, systems biology or evolutionary developmental biology. Each of the 30 chapters covers the respective philosophical literature in detail and makes specific suggestions for biology education. The aim of this book is to inform biology educators, undergraduate and graduate students in biology and related fields, students in teacher training programs, and curriculum developers about the current state of discussion on the major topics in the philosophy of biology and its implications for teaching biology. In addition, the book can be valuable to philosophers of biology as an introductory text in undergraduate and graduate courses.

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