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Altri autori (Persone)	StreelmanJ. Todd (Jeffrey Todd)
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Nota di contenuto	Cover; Title page; Copyright page; Contents; Preface; Contributors; 1: "The Genetic Tool-Kit": The Life-History of an Important Metaphor; Introduction; Historical Background to the Term; From "Homeotic Genes" (and "Homeoboxes") to the General Idea of Key Regulatory Genes with Conserved Developmental Functions; The Genetic Tool-Kit: The Seminal Findings That Led to its Coinage and the Key Idea; The Genetic Tool-Kit as a Non-Answer to the Question of Evolutionary Diversification within the Animal Kingdom; Thinking about How GRNs Are "Rewired": Two Approaches; Conclusions; Acknowledgments References2: The Evolution of Sex Determination in Animals; Introduction; Evo-Devo of Sex Determination; The Origin of Network Novelty; Evolution of Genotypic Sex Determination; The Developmental Basis of GSD; Evolutionary Transitions between Genotypic Sex-Determining Systems; GSD and the Evolution of Sex Chromosomes; Evolution of Environment-Dependent Sex Determination; The Developmental Basis of ESD; Evolutionary Transitions between Environment-Dependent Sex-Determining Systems; From ESD to GSD and Back Again; Suggestions for Future Work; Acknowledgments; References

3: The Evolution and Development of Eusocial Insect BehaviorThe Path from Solitary Life to Advanced Social Living; Eusociality: Defining the Extremes of Social Life; The Starting Point: A Solitary Life Cycle; Aggregations; Communal Nesting; Primitive Eusociality; Advanced Eusociality; Ultimate Explanations for Reproductive Division of Labor; What Could Natural Selection Act Upon to Build Eusocial Insect Societies?; Genomic Approaches; A Targeted Approach: Social Co-Option of Solitary Ground Plans; Reproductive Physiology as a Behavioral Regulator; Reproductive Ground Plan Hypothesis Epigenetics: A New Understanding of the Regulation of Social LifeGenomic Patterns of DNA Methylation: A Substrate for Natural Selection?; The Proposed Functional Roles of DNA Methylation; The Role of DNA Methylation in Eusocial Developmental Plasticity and Evolution; The Putative Role of DNA Methylation in Behavior and Social Behavioral Evolution; Social Insect Evolution: A Quickly Advancing Field; References; 4: Evo-Devo on Chip; Introduction; Interrogating Developmental Mechanisms in *Drosophila melanogaster* Using Microdevices Microfluidic Advances for Developmental and Behavioral Studies in *C. elegans*Microfluidic Culture Systems for Studying Genetic and Environmental Effects on *D. rerio* Development; Mammalian Embryonic Development in Microsystems; Conclusion; References; 5: From Black and White to Shades of Gray: Unifying Evo-Devo through the Integration of Molecular and Quantitative Approaches; Introduction; The Geometry of Development: A Quantitative Approach; A Brief Review of GMs; How GM Can Be Used to Study the Evolution of Development Size and Shape Relationships: How Can Allometry Inform Us about the Process of Evolution?

Sommario/riassunto

Providing outstanding breadth of coverage in evo-devo, Advances in Evolutionary Developmental Biology provides a comprehensive review of the milestones of research in evolution and development and outlines the exciting research agenda for the field going forward. Compiling the viewpoints of a diverse group of field experts, this timely text expands the now-mature science of evo-devo into more complex areas of research. This essential reference is destined to become the go-to source for ideas and hypotheses for a new generation of graduate students in evolutionary and developmental biology.
