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Nota di contenuto	Cover; Title Page; Copyright; Contents; List of Contributors; Preface; About the Companion Website; Part I Introduction and Theoretical Concepts; Chapter 1 Genotype-by-Environment Interactions and Sexual Selection: Female Choice in a Complex World; 1.1 Introduction; 1.2 Classical female choice; 1.3 The instability of ""good genes"" when male quality is a complex trait; 1.3.1 Additive effects of genes on genotypic value; 1.3.2 Genotype-by-environment interaction; 1.3.3 Gene-by-gene interaction; 1.3.4 Indirect genetic effects sensu quantitative genetics; 1.4 Discussion; Acknowledgments ReferencesChapter 2 GEIs when Information Transfer is Uncertain or Incomplete; 2.1 Introduction; 2.2 Lewontin's ""very annoying conclusions""; 2.3 Ignorance, uncertainty, and information; 2.4 Information and fitness; 2.5 Bayesian Statistical Decision Theory; 2.6 Discrimination and selection: the signal detection perspective; 2.7 Search, discrimination, and mate choice by female pied flycatchers; 2.8 Optimal search and the marginal value of additional information; 2.9 Biological signaling theory; 2.10 GEIs in condition, signals, and preferences; 2.11 Conclusions; References

Chapter 3 Local Adaptation and the Evolution of Female Choice 3.1 Introduction; 3.2 The Jekyll and Hyde nature of GEIs; 3.3 The model; 3.3.1 Overview; 3.3.2 Initialization phase; 3.3.3 Dispersal; 3.3.4 Determination of condition and viability selection; 3.3.5 Breeding; 3.3.6 Mutation; 3.4 Less local adaptation, more female choice!; 3.5 Can we generalize?; 3.6 GEIs often maintain costly choice in a suitably variable world; 3.7 Insights from the model; 3.8 Prospects for empirical work; 3.9 Prospects for theoretical work; 3.10 Conclusions; References

Chapter 4 Genotype-by-Environment Interactions when the Social Environment Contains Genes 4.1 Introduction; 4.2 Modeling genotype-by-social environment interactions; 4.2.1 A simple GEI model when the environment is abiotic; 4.2.2 A simple model for gene interactions; 4.2.3 A simple GSEI model; 4.2.4 Summary; 4.3 Measuring genotype by social environment interactions; 4.4 Empirical evidence for genotype by social environment interactions; 4.5 Future directions; Acknowledgments; References; Part II Practical Issues for Measuring GEIs

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## Sommario/riassunto

Sexual selection is recognized as being responsible for some of the most extravagant morphologies and behaviors in the natural world, as well as a driver of some of the most rapid evolution. While Charles Darwin's theory is now a fundamental component of modern evolutionary biology, the impact of genotype-by-environment interactions on sexual selection has thus far received little attention. This book represents the first comprehensive analysis of the role genotype-by-environment interactions play in sexual selection and the potential implications that they have for the evolutionary process.

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