

1. Record Nr.	UNINA9910828569403321
Autore	Cheplick G. P (Gregory Paul), <1957->
Titolo	Approaches to plant evolutionary ecology / / Gregory P. Cheplick
Pubbl/distr/stampa	Oxford, England ; ; New York, New York : , : Oxford University Press, , 2015 ©2015
ISBN	0-19-029766-2
Descrizione fisica	1 online resource (307 p.)
Disciplina	581.7
Soggetti	Plants - Evolution Plant breeding Selection (Plant breeding)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Cover ""; ""Contents""; ""Preface""; ""Acknowledgments""; ""1 The Domain of Evolutionary Ecology""; ""1.1 Introduction: The Individual in Ecology and Evolution""; ""1.2 Plant Evolutionary Ecology""; ""1.3 The Timescale of Evolutionary Ecology""; ""1.4 Principles and General Themes of Evolutionary Ecology""; ""2 Natural Selection in the Plant Population""; ""2.1 Natural Selection as a Population Attribute""; ""2.1.1 Classifying the Agents of Selection""; ""2.1.2 Natural Selection as Cause Versus Effect""; ""2.1.3 How Natural Selection Causes Microevolution"" ""2.1.4 The Importance of Genotype-by-Environment Interactions"" ""2.1.5 Can Selection Occur without an External Agent?""; ""2.1.6 Internal Agents and the Evolutionary Role of Development""; ""2.2 Allelic, Genotypic, and Phenotypic Selection""; ""2.2.1 The Classic Case of Avena barbata""; ""2.2.2 Deviations from Hardy-Weinberg Expectations""; ""2.2.3 Selection Analysis of Quantitative Traits""; ""2.2.4 Experimental Approaches to Natural Selection""; ""2.3 Natural Selection in Plants: What Have We Learned?""; ""3 The Common Garden Approach""; ""3.1 Introduction"" ""3.2 Single Common Garden, No Environmental Factors Varied"" ""3.3 Multiple Common Gardens, No Environmental Factors Varied""; ""3.4 Single or Multiple Common Gardens, One or More Environmental Factors Varied""; ""3.5 Natural Selection in the Common Garden""; ""3.6

Questions and Considerations in Using Common Garden Experiments""; ""3.6.1 What to Use: Seeds, Seedlings or Ramets?""; ""3.6.2 Can and Will Potential Maternal Effects be Controlled?""; ""3.6.3 How Many Gardens Will be Used and Where Should They be Placed?"" ""3.6.4 Given Space and Time Limitations, What Sample Sizes (Number of Individuals, Populations, and so on) Can be Used?"" ""3.6.5 How Can Blocks be Used to Control Statistically for Environmental Heterogeneity Within the Garden?""; ""3.6.6 Will Naturally Occurring Vegetation in a Field Garden be Left Intact or Will the Garden be Weeded?""; ""3.6.7 Will Environmental/Climate Data be Obtained for the Sites of the Source Populations?""; ""3.6.8 Will any Environmental Variables be Purposely Manipulated?""; ""3.7 Utility and Applications of the Common Garden Approach""

""4 Reciprocal Transplant Experiments"" ""4.1 Introduction""; ""4.2 A Brief Aside on Adaptation""; ""4.3 Testing Hypotheses with the Standard Design""; ""4.4 Diversity of Reciprocal Transplant Approaches""; ""4.4.1 Manipulating the Planting Site""; ""4.4.2 Comparing Planting Site Conditions""; ""4.4.3 Modification and Expansion of Reciprocal Transplant Designs""; ""4.4.4 Long-Term Experiments""; ""4.5 Selection Coefficients and Selection Gradients""; ""4.6 Reasons for the Lack of Local Adaptation""; ""4.7 Reciprocal Transplant Experiments: Where Do We Go from Here?""

""5 Molecular Approaches""

Sommario/riassunto

Plant evolutionary ecology is a rapidly growing discipline which emphasizes that populations adapt and evolve not in isolation, but in relation to other species and abiotic environmental features such as climate. Although it departs from traditional evolutionary and ecological fields of study, the field is connected to branches of ecology, genetics, botany, conservation, and to a number of other fields of applied science, primarily through shared concepts and techniques. However, most books regarding evolutionary ecology focus on animals, creating a substantial need for scholarly literature wi