

C O N T E N T S

Preface

ix

Part I **Stochastic and Deterministic** **Genetic Theory**

1. The Effective Population Sizes in the Presence of
Catastrophes 9
Warren J. Ewens
2. The Neutral Alleles Model with Bottlenecks 26
Geoffrey A. Watterson
3. The Genealogy of the Birth, Death, and Immigration
Process 41
Simon Tavoré
4. When Not to Use Diffusion Processes in Population
Genetics 57
John H. Gillespie
5. The Effect of Population Subdivision on Multiple Loci
without Selection 71
Freddy Bugge Christiansen
6. Complete Characterization of Disequilibrium at Two Loci 86
Bruce S. Weir and C. Clark Cockerham
7. The Reduction Principle for Genetic Modifiers of the
Migration Rate 111
Uri Liberman and Marcus W. Feldman

Part II **Behavior, Ecology, and Evolutionary Genetics**

8. On the Theory of Evolution under Genetic and Cultural
Transmission, with Application to the Lactose Absorption
Problem 145
Marcus W. Feldman and Luigi L. Cavalli-Sforza

9.	Two-Locus Models of Kin Selection among Haplodiploids: Effects of Recombination and Epistasis on Relatedness <i>Marcy K. Uyenoyama</i>	174
10.	Resource Allocation in Mendelian Populations: Further in ESS Theory <i>Sabin Lessard</i>	207
11.	Sexual Selection Models and the Evolution of Melanism in Ladybirds <i>Peter O'Donald and Michael E. N. Majerus</i>	247
12.	The Evolution of Marine Life Cycles <i>Jonathan Roughgarden</i>	270
13.	An Evolutionary Model for Highly Repeated Interspersed DNA Sequences <i>Norman L. Kaplan and Richard R. Hudson</i>	301
14.	Statistics and Population Genetics of the HLA System <i>Walter F. Bodmer and Julia G. Bodmer</i>	315
	List of Contributors	335
	Index	337