
This book, the fifteenth in the Lecture Notes in Biomathematics series by Springer-Verlag, is devoted to deterministic one- and two-locus models in population genetics. The scope of the book is broader than the title implies, covering the effects of mutation, migration and nonrandom mating, as well as selection. As might be expected from a book which arose out of a course in theoretical population genetics at the University of Chicago, it represents a good balanced account of this branch of population genetics.

The casual reader, looking for some enlightenment in this field, may well be disappointed, however. Although each topic is covered with rigor, it is developed with such formalism that it makes the book quite difficult to read. The symbolism is involved and does not always follow the loose convention used by population geneticists. This problem is compounded by the low frequency of definitions of the symbols themselves, and a rather unhealthy proliferation of subscripts. More than once, while reading this book, I have come across a familiar result in population genetics, presented in such an abstruse fashion as to render it unrecognizable at first glance. Moreover, this book falls into the trap of so many books in theoretical biology by presenting models that are tractable mathematically but have little biological relevance. This results in a great deal of space being devoted to unrealistic models which have little value beyond an exercise in algebra. One example of this is the description, in excruciating detail, of the haploid model incorporating both mutation and selective effects.

Whatever one's reaction to the choice and treatment of the population genetic models is, this book will be valued for its detailed and careful approach, and will make a useful reference book for any serious student of theoretical population genetics.

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