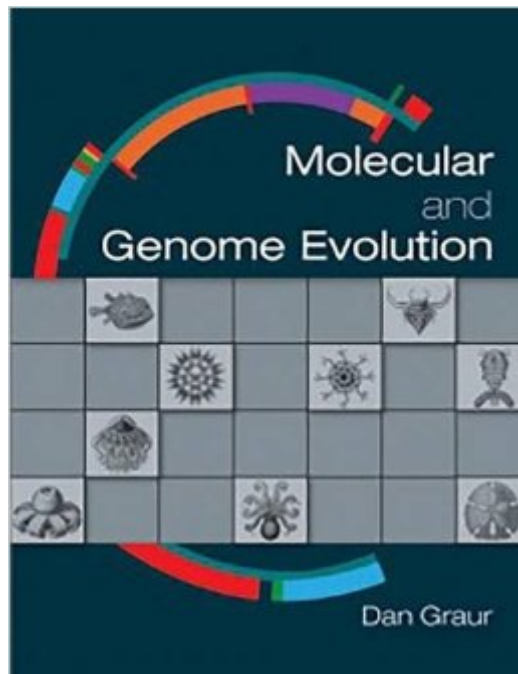


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Molecular And Genome Evolution



Synopsis

This book describes the driving forces behind the evolutionary process at the molecular and genome levels, the effects of the various molecular mechanisms on the structure of genes, proteins, and genomes.

Book Information

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Customer Reviews

Dan Graur has written a masterly account of molecular and genome evolution, and I expect to be getting more and more from it as I re-read and refer to it. As anyone who follows his blog Judge Starling (dan = judge in Hebrew, graur = starling in Roumanian) will know, he is not someone to be discreet about his opinions. His often expressed contempt for the ENCODE project, which cost around \$300000 to arrive at the claim that the great majority of the human genome is "nonfunctional" makes his blog worth reading for that alone. As well as explaining protein, nucleic acid structure, mutations and so on in the early chapters, Graur explains in some detail how phylogenetic trees are constructed from molecular data., describing, for example, the simplest method, UPGMA, as well as others such as the widely used computational method, CLUSTAL. He is not frightened of giving the mathematical basis for his analyses, and assumes that his readers will not be, either. It would be an exaggeration to say that the mathematics is trivial or very simple, but little of it should be beyond the reach of readers who make the effort. I was particularly interested in his calculation that if 80% of the genome is functional, as claimed, then each of us must have at least 30,000,000,000,000,000,000 children if the population is to avoid collapsing from lethal mutations. As he rightly says, this result is "bonkers", but there is nothing wrong with the

calculation, so the starting point cannot be right. He believes, as I do, that most mutations are neutral, and that the human population can easily avoid collapsing from the genetic load represented by the few that are not.

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