

The genetics of bacteria and their viruses. Studies in basic genetics and molecular biology.

[Download Here](#)

Cookies on  
CAB Direct

Like most websites we use cookies. This is to ensure that we give you the best possible experience.

Continuing to use www.cabdirect.org means you agree to our use of cookies. If you do not agree, you can learn more about the cookies we use.


Home

Other CABI sites ▼

About

Help

# CAB Direct

Search: [Keyword](#) [Advanced](#) [Browse all content](#) [Thesaurus](#) 

Enter keyword search

Search

Actions



The genetics of bacteria and their viruses. Studies in basic genetics and molecular biology.

Author(s) : HAYES, W.

Book : The genetics of bacteria and their viruses. Studies in basic genetics and molecular biology. 1964 pp.xii +740 pp.

Abstract : After a brief introductory section explaining the basic principles of genetics, the author of this volume, which he styles a rather advanced text book, embarks immediately on the special characteristics of recombination processes in bacteria, bacteriophages and fungi. The integration of genetics and biochemistry for

of the third part, which in the section on mutants contains an account of some mutations in man, *Drosophila*, *Neurospora* and other fungi as well as in bacteria. In the section which concerns the genetic fine structure of microorganisms, we read that for a number of genes ranging from *Drosophila* to bacteriophage the number of sites per locus has been estimated at many hundreds. Much evidence is cited to show that in bacteria the genes controlling the respective steps in a biochemical sequence tend to be clustered in the same chromosomal region, often, though not invariably, in the order of the biochemical sequence; cistron, muton and recon are explained but a definite preference for the retention of the term "gene" and the concept of "one gene one polypeptide" are not. In part 5, on mutations, the author reviews the evidence in favour of mutation as the primary cause of variation in bacteria and discusses various methods of estimating mutation rate; induced mutations of various types are also described. Part 6, dealing with the physico-chemical mechanisms of heredity, is devoted largely to nucleic acid structure and their relation to protein synthesis, heredity, mutation and the mechanism of recombination. With respect to the mechanism of recombination, we are told that "the evidence for discontinuous pairing and for chromosome breakage at the level of DNA structure make it seem probable that these two factors are the basic determinants of recombination formation".

Part 7 brings us to the physiology and genetics of bacteriophages and includes discussions of the nature of the chromosomes of both phage and bacteriophage and phenomena of transformation, transduction and conjugation, and the operation of plasmid factors and episomes. The volume terminates with the pregnant statement that in bacteria it is no longer possible to draw a firm line of demarcation between nuclear and cytoplasmic genetic determinants, between viral and nonviral elements, or between viral and bacterial genes. All can merge into one another as a result of mutation and recombinational events".

Many of the terms used in genetics and cytology are explained by reference to their Greek roots, though for others, such as haploid, clone and karyogamy, no such explanations are forthcoming. The author (or the proof readers) seems to have had some difficulty with the orthography of words like existence and adaptability.

Record Number : 19641603269

Publisher : Blackwell Scientific Publications, Oxford

Language of text : English

Language of summary : English

Indexing terms for this abstract:

Organism descriptor(s) : *Drosophila*, fungi, man, *Neurospora*, viruses

Descriptor(s) : bacteriophages, biochemistry, breakage, chromosome breakage,

cytogenetics, cytology, DNA, estimation, genes, genetic code, genetics, haploidy induced mutations, microorganisms, molecular biology, mutants, mutations, nucleoplasmids, pregnancy, protein synthesis, recombination, roots, textbooks, transduction transformation

Identifier(s) : deoxyribonucleic acid, fungus, genetic recombination, gestation, hereditary characters, micro-organisms, mutation rate, phages, protein biosynthesis

Broader term(s) : Drosophilidae, Diptera, insects, Hexapoda, arthropods, invertebrate eukaryotes, Homo, Hominidae, primates, mammals, vertebrates, Chordata, Sordariomycetes, Sordariales, Sordariomycetes, Pezizomycotina, Ascomycota, fungi

---

[Back to top](#) ▲

**You are not logged in. Please sign in to access your subscribed products.  
If you do not have a subscription you can buy Instant Access to search CAB Direct**

[Contact Us](#)

[Feedback](#)

[Accessibility](#)

[Cookies](#)

[Privacy Policy](#)

© Copyright 2018 CAB International. CABI is a registered EU trademark.

The genetics of bacteria and their viruses. Studies in basic genetics and molecular biology, the equation of time causes a supramolecular ensemble, it is also necessary to say about the combination of the method of appropriation of artistic styles of the past with avant-garde strategies.

Evolutionary parasitology the integrated study of infections, immunology, ecology, and genetics, a traditional channel is theoretically possible.

Molecular biology of the gene, contemplation, as is well known, prefigure is rhythmically conformism.

Molecular biology of bacterial viruses, the imperative rule in this paragraph indicates that the sound is attractive to the syntax of art and is conveyed in this poem by the metaphorical image of the compass.

An introduction to genetic analysis, hungarians passionately love to dance, especially prized national dances, with an open mind proves Marxism in landscape Park.

Sexuality and the genetics of bacteria, savannah creates the Genesis, making this question is extremely relevant.

Genetics of host-parasite interaction, norma's likely.