

easily wiped clean with a damp tissue. It therefore constitutes an excellent fly swatter for those inevitable failed experiments.

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On Competition by C. T. DE WIT. First published in 1960 and now reprinted as *Evolutionary Monographs*, vol. 7 by University of Chicago Press, 915 East 57th St, Chicago, IL 60637, USA. 1986. 82 pages. \$10.00 (institutions); \$8.00 (individuals).

This book is an ecological classic, dealing with the effects of competition between species (mostly plants) under various circumstances. It is not genetical. What is called 'Fisher's Fundamental Theorem of Natural Selection' is mentioned on page 7, but in fact this is not really Fisher's theorem, but an analogous but rather simpler ecological theorem. Otherwise genetical considerations are hardly mentioned, although the results obtained on the rate at which selection operates would be relevant to any fully developed genetical theory of natural selection.

The book begins with a model in which two species develop independently in neighbouring areas, so that strictly speaking there is no competition, but nevertheless one species will end by being more abundant. Later chapters deal with the effects of limited-space mixtures of two species, or healthy and diseased plants of the same species, on the rate of growth of colonies on their own in competition with other species, mixtures of several species, and more complicated types of competition. In every case in which equations of growth are derived they are compared with actual experimental results of similar situations, often with quite strikingly good agreement. Useful advice is given on how to conduct experiments to obtain informative and reliable results.

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Oncogenes and Growth Control. Edited by PATRICIA KAHN and THOMAS GRAF. Berlin: Springer-Verlag. 1986. 369 pages. DM 148. ISBN 3 540 16839 7.

This timely book is a collection of mini reviews by a variety of authors on a subset of all possible topics which might conceivably come under its title. The editors in their preface make it quite clear what their intentions were when organizing their contributors. They point out how rapidly this subject is progressing and how difficult it is to keep up with the literature in this area. Because of this, mini reviews by experts in a particular speciality are essential if the work is to be published fast and to be up to date. The authors have been rigorously restricted to length of text and numbers of references, thus improving the chances

that the essential facets of a subject will appear, unclouded by detail and unnecessary speculation. The only casualties of such an approach are a few hurt feelings, for which ample and no doubt sincere apologies are given.

There are 47 contributions organized into six sections, and the editors have themselves written introductions to each section and an introduction to the whole book. The average article is of five or six pages, with one table or figure and about 30 references, which are given with complete titles. The length of each section is variable, for instance there is one chapter by Doug Hanahan in the section on Oncogenesis in Transgenic Mice, while there are fourteen contributions to the section on Growth factors, Receptors and Related Oncogenes. The editors deliberately restricted the choice of topics to fibroblast and haemopoietic systems and to the *src*, *myc* and *ras* oncogenes, but there are articles on GM-CSF (Nick Gough), TGF beta (Harold Moses and Edward Leof), TGF alpha (Rik Derynch), EGF and EGFR (by a variety of authors), *c-abl* (Yinon Ben-Neriah and David Baltimore), *v-abl* (Angelika Gebhardt and Gordon Foulkes), *mos* (Donald Blair), IL-2R (Masanori Hatakeyama, Seiji Minamoto, Hisashi Mori and Tadatsugu Taniguchi), protein phosphorylation (Tony Hunter), IP metabolism (Mike Berridge), protein kinase C (various authors), cytoplasmic pH and free calcium (Wouter Moolenaar), regulation of human globin gene expression (Patrick Charnay), regulation of steroid hormones (Miguel Beato), tissue-specific enhancers (Uwe Schlokot and Peter Gruss), DNA methylation (Walter Doerfler), E1A (Lennart Philipson), transactivators of HTLVs (William Haseltine, Joseph Sodroski, Craig Rosen, Wei Chun Goh, Andrew Dayton and Daniel Celander), *c-fos* (Rodrigo Bravo and Rolf Müller; Thomas Jenuwein and Rolf Müller), *myb* (Karin Moelling), and p53 (Moshe Oren). There is also a section on malignant transformation as a multistep process with eight contributions ranging from chemical carcinogenesis (Allan Balmain) through multiple factors involved in B-cell tumorigenesis (George Klein) and the role of Middle T:pp60^{c-src} (Seng Cheng, William Markland and Alan Smith) to the suppression of the neoplastic phenotype (John Wyke and Richard Green). The section on growth factors and proto-oncogenes in development I thought was a particularly useful summary of this subject with regard to mouse development, with three contributions from Aya Jakobovits, Erwin Wagner and Rolf Müller, and Larry Rohrschneider. There is also a very useful index which is complete as far as I am able to judge, as well as a list of abbreviations and of the oncogenes discussed in the book.

What everyone will want to know is, does this format succeed? My opinion is it does very well, and it would be excellent if it were published at one-fifth the price in soft covers, so that all those who will undoubtedly want to read it could afford to buy their

own copy. Unfortunately, even if it is put out now at a reduced price in soft covers it will have lost a good deal of impact by having become a year out of date. I think this is an excellent book, which has the character more of a review journal such as *TIGs* rather than a review book such as *Annual Reviews of Genetics*. I would like to see the annual release of mini-review collections of this type, provided such a uniformly high quality is maintained. Everyone should have their own copy, but which of us can afford hard covers?

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Veterinary Genetics, By F. W. NICHOLAS. Oxford University Press. 1987. 580 pages. £19.50. ISBN 0 19 857569 6.

One is often disappointed to find that the title of a book promises more than it actually has to offer. Quite the reverse is the case for this text for, although primarily aimed at vet students and practitioners, it contains information for a much wider audience. It should be a useful text and reference book for those interested in the genetics, breeding and production of domestic animals, although containing more of detail and difficulty than the non-dedicated student will appreciate.

Essentially the book comprises an introductory section on basic Mendelian and molecular genetics, a section with a more detailed analysis of genetics which can have disease implications, such as biochemical genetics, chromosomes, immunogenetics and host-parasite interrelations and a final section on animal improvement. The depth of coverage is illustrated by the excellent chapter on immunogenetics, which deals with antibody structure, assembly and diversity and then with the structure and disease associations of the major histocompatibility complex. The writing is clear and there is a nice summary section at the end of each chapter.

As a non-veterinarian, I find the book of most

interest for its wealth of information and examples of the genetics of domestic animal species. I had not appreciated, for example, what an important problem hip dysplasia was in dogs nor what a nice model it was for a congenital disease which did not display single gene inheritance. Similarly, I liked the descriptions and discussions of drug resistance in blowfly. There is a comprehensive review of traits inherited by identifiable genes together with their practical implications, such as progeny testing to remove recessive defects and use of sex-linked plumage markers for sexing poultry, and their less important aspects (although fanciers might not agree) related to hair colour pattern in cats.

The section on animal improvement is essentially a comprehensive coverage of quantitative genetics theory, including topics such as selection indices (treated well, except for the absence of discussion of multi-trait selection on relatives) and heterosis in different types of crossing programme. The more mathematical details are given in appendices, leaving a readable text.

If veterinary students or practitioners assimilated all that Nicholas covers, they would be knowledgeable indeed. Even if they only get part way there, for this is a long and detailed coverage, I am sure they will be able to take more rational decisions in consultation and treatment. (A personal anecdote may illustrate some of the current ignorance: I was surprised recently to encounter a well-respected vet apparently unaware that anything was known about the genetics of the MHC system and that it had any relevance to disease, and indeed seemed not to have heard of HLA in man or the B locus in poultry!) I suspect there is more here than many need, for example on quantitative genetics in animal breeding. This material is, however, useful for those in animal science, and in many countries the animal scientists are trained as veterinarians.

Frank Nicholas has clearly put a lot of time and effort into this new book. It has been fully justified by the end product.

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