

Campbell, A., Anderson, W.W., Jones, E.W. (ed.): **Annual Review of Genetics**. Volume 32. - Annual Reviews Inc., Palo Alto 1998. 735 pp. Individual per copy price USA \$ 60.00, other countries \$ 65.00, institutional price USA \$ 120.00, other countries \$ 130.00. ISBN 0-8243-1232.

This volume of Annual Review of Genetics is dedicated to Alfred D. Hershey, known for his studies on T-even and lambda phages. The following topics are reviewed: FHY/FRA3B locus in cancer, Regulation of root nodule development, Extracytoplasmic protein targeting in *E. coli*, Breast cancer susceptibility, Negative strand RNA viruses, Disulfide bond metabolism, Comparative DNA analysis across diverse genomes, Ethylene response pathway, Bacteriocin molecular evolution, Alternative splicing of pre-mRNA, Kinetochore and the mitotic checkpoint machinery, Bacterial genome structure, DNA replication in bacteriophage T4, Major histocompatibility complex loci in vertebrates, Translations in chloroplasts, Alzheimer's disease, Chromosome translocation in leukemia, Nematode embryo patterning, Clinical and ethical challenges of genetic counseling, Mating-type gene switching in *S. cerevisiae*, Epitope tagging, and, Leptotene-zygotene transition of meiosis. All the reviews include extensive references to the literature and are written in such a way, as to be valuable both to advanced students and scientist.

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T. GICHNER (*Praha*)

Aalto, T.: **Gas Exchange of Scots Pine Shoots: Stomatal Modelling and Field Measurements**. (Report Series in Aerosol Science, No. 40). - Limes, Helsinki 1998. 137 pp. ISBN 952-5027-14-7.

This thesis was conducted at the Department of Physics, Faculty of Science, University of Helsinki and its aim was to clarify the role of leaf gas exchange for the vegetation-atmosphere gas exchange. The photosynthetic and transpiration rates together with micrometeorological characteristics were measured in forests with Scots pine as dominant tree species situated in Värriö nature park in northeastern Lapland and in Hyytiälä in rural area of southern Finland. In addition to diurnal and seasonal courses, the effect of pollutants was also considered. The parameters obtained served as source of information for mathematical modelling. The first of the three mathematical models presented here treated only gaseous phase diffusion without taking into account detailed leaf structure. Mesophyll properties were studied with the second model which showed three-dimensional nature of the CO₂ diffusion inside a leaf as opposed to the traditional one-dimensional approach. In the third model, intercellular air spaces were presented in a simplified way but this model was focused on transport of CO₂ inside mesophyll cells.

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