

# VOLUME V

## INDEX OF SUBJECTS AND AUTHORS

Only main topics are listed, and reference is given to the first page of each paper in which they are discussed.

- Affinity in *Ascobolus*, 20  
Albumen, egg, in fowl  
  linkage of two loci, 330  
  polymorphisms of, 39, 257  
Allan, J. S., 68  
Allometry of  
  body dimensions in *Drosophila* spp., 240  
  femur and body lengths in *Notonecta*, 384  
*Anas clypeata*, see Duck  
*Anas penelope*, see Duck  
Ancestry, effect of, on recombination in  
  *Neurospora*, 366  
Antigens, location of, in *Paramecium*, 137  
*Ascobolus immersus*, non-random segregation  
  in, 20  
*Aspergillus amstelodami*, parasexual cycle in,  
  162  
*Aspergillus nidulans*  
  complementation of sorbitol mutants in,  
  in, 211  
  mitotic recombination in *paba-1* cistron of,  
  316  
Barron, G. L., 162  
Beale, G. H., 85  
Beckwith, J. R., 489  
Birds, absence of dosage compensation in, 354  
Body dimensions in *Drosophila* spp., 240  
Bristle number, in *Drosophila*  
  irradiation affecting genetic variance of,  
  410  
  selection for, 1, 410  
  variance partitioning of, 198  
Broda, P., 489  
Buvanendran, V., 330  
Canalization of body size in *Drosophila*, 107  
Chiasmata in spermatocytes of *Drosophila*, 80  
Chromosomes  
  chiasmata in *Drosophila*, 80  
  deletion of markers in, in *Escherichia coli*,  
  495  
  effects of, on bristle number in *Drosophila*,  
  1  
  non-random segregation of, in *Ascobolus*, 20  
  pairing in duck hybrid, 441  
  structural polymorphism of, in *Drosophila*,  
  27  
Clayton, G. A., 410  
Clines in body dimensions of *Drosophila* spp.,  
  240  
Cock, A. G., 354  
Coleman, D. L., 432  
Comb-shape, effect of, on fertility in fowl, 379  
Compatibility (S) alleles in *Nicotiana*, 397  
Complementation in *Aspergillus*, 211  
Computer simulation of selection responses,  
  68  
Correlations between body dimensions in  
  *Drosophila* spp., 240  
Crawford, R. D., 379  
Curnow, R. N., 341  
Cytology of  
  hybrid duck, 441  
  XXY mouse, 328  
Dawson, G. W. P., 269, 333, 423  
*Delphinium ajacis*, mutation of unstable gene  
  in, 423  
Development  
  growth at different stages of, in *Drosophila*,  
  107  
  of 'Dominant hemimelia' in mouse, 171  
Diabetes insipidus in mouse, 473  
Dosage compensation in non-mammals, 354  
*Drosophila melanogaster*  
  chiasmata in spermatocytes of, 80  
  ecological genetics of growth in, 107  
  genetic variance after irradiation in, 410  
  nutrition of inbreds and crosses in, 50  
  selection for  
    scutellar bristles in, 198  
    sternopleural bristles in, 1  
*Drosophila pseudobscura*, sexual isolation in,  
  150  
*Drosophila subobscura*  
  clines in body dimensions of, 240  
  chromosomal polymorphism in, 27  
Duck, cytology of hybrid, 441  
Efficiency of *Drosophila* inbreds and crosses,  
  50  
Ehrman, L., 150  
Environment  
  effect of, on selection responses in *Droso-*  
  *phila*, 107

- Environment—*continued*  
 nutrition of *Drosophila* inbreds and crosses, 50
- Episome transposition in *Salmonella*, 269
- Episomic suppression of phenotype in *Salmonella*, 269
- Escherichia coli*  
 deletion of chromosomal markers in, 495  
 induced mutation by photodynamic action in, 158  
 new F-prime factor in, 489
- Falconer, D. S., 473
- Fertility  
 after irradiation in mouse, 448, 468  
 effect of comb-shape on, in fowl, 379
- Finger, I., 127, 137
- Fixation of alleles under selection, 341
- Fowl  
 egg albumen polymorphisms in, 39, 257  
 linkage of egg albumen loci in, 330  
 operational overdominance in, 379
- Fox, T. W., 379
- F-prime factor in *Escherichia coli*  
 deletion of markers at formation of, 495  
 new type of, 489
- Freeman, A. E., 335
- Frost, L. C., 366
- Fungi, gene conversion in 282
- Gene conversion in fungi, 282
- Gene frequency, changes in, during selection, 341
- Genetic  
 correlation of reproduction in two environments, in *Tribolium*, 335  
 divergence of *Drosophila* populations, 150  
 drift, reduction of, during inbreeding, 164  
 models of selection responses, 68  
 variance  
 effect of irradiation on, in *Drosophila*, 410  
 of growth rates in *Notonecta*, 384
- Gibson, I., 85
- Gibson, J. B., 1
- Growth in *Drosophila*  
 ecological genetics of, 107  
 of inbreds and crosses, 50
- Haploid segregants in *Verticillium*, 305
- Hastie, A. C., 305
- Haverland, L. H., 335
- Heller, C., 127, 137
- Heritability of reproductive performance in *Tribolium*, 335
- Heterogeneity of recombination frequency in *Neurospora*, 366
- Heterozygosity, reduction in, during inbreeding, 164
- Holliday, R., 282
- Hybrids  
 antigenic properties of, in *Paramecium*, 127  
 cytology of duck, 441  
 variability in *Drosophila*, 50
- Inactive X chromosome, lack of, in non-mammals, 354
- Inbred lines of *Drosophila*, genetic variance after irradiation in, 410
- Inbreeding  
 effect on recombination in *Neurospora*, 366  
 maximum avoidance of, 164  
 rate of, under non-random mating, 164
- Interaction  
 between genes, in mouse  
 coat colour alleles, 432  
 luxoid genes, 171  
 genotype-environment  
 for growth in *Drosophila*, 50, 107  
 for progeny number in *Tribolium*, 335
- Inversion frequency in two *Drosophila* populations, 27
- Irradiation  
 dose-rate effect on translocations in mouse, 468  
 frequency of reversions after UV, in *Salmonella*, 269  
 induced mutation in mouse by, 448, 468  
 selection after, in *Drosophila*, 410
- Isaacson, J. H., 473
- Kappa particles in *Paramecium*, 230
- Kidwell, J. F., 335
- Latter, B. D. H., 198
- Latyszewski, M., 473
- Lavigne, S., 366
- Lepidoptera, absence of dosage compensation in, 354
- Lewis, L. A., 162
- Linkage of  
 'affinity region' in *Ascobolus*, 20  
 biochemical and colour mutants in *Aspergillus*, 162  
 'Dominant hemimelia' in mouse, 171  
 egg albumen loci in fowl, 330  
*leu-era B* region in *Salmonella*, 333  
 'postaxial hemimelia' in mouse, 171  
 sorbitol mutants in *Aspergillus*, 211
- Lush, I. E., 39, 257
- Lyon, M. F., 448
- Lysis of kappa-particles in *Paramecium*, 230
- Mate-killer (*mu*) particles in *Paramecium*, 85
- Mating systems, effect of, on rate of inbreeding, 164

- Meiosis  
 chiasmata at, in *Drosophila*, 80  
 model for pairing at, 282
- Metagons in *Paramecium*, chemical nature of, 85
- Misra, R. K., 240, 384
- Mitotic crossing over in  
*Aspergillus*, 316  
*Verticillium*, 305
- Model for  
 enzyme formation in *Aspergillus*, 211  
 F-prime factor formation in *Escherichia coli*, 489  
 gene conversion in fungi, 282  
 responses to selection, 68
- Modifying genes causing diabetes, in mouse, 473
- Morphology of luxoid mutants, in mouse, 171
- Mouse  
 cytology of XXY, 328  
 diabetes insipidus in, 473  
 induced mutation by irradiation in, 448, 468  
 irradiation dose-rate effect on mutation in, 468  
 mutants  
 'Dominant hemimelia', skeletal, 171  
 'Mi-spotted', coat colour, 432  
 'postaxial hemimelia', recessive skeletal, 171
- Mu particles in *Paramecium*, 85
- Mutants  
 antigenic determinants in *Paramecium*, 127  
 ascospore pigmentation in *Ascobolus*, 20  
 biochemical in  
*Aspergillus*, 211  
*Salmonella*, 269  
*Verticillium*, 305  
 'Dominant hemimelia', dominant skeletal, in mouse, 171  
 egg albumen in fowl, 39, 257, 330  
 'Mi-spotted', coat colour in mouse, 432  
 'Oligosyndactyly', dominant skeletal with diabetes, in mouse, 473  
 'postaxial hemimelia', recessive skeletal, in mouse, 171  
 sepal colour in *Delphinium*, 423
- Mutation  
 induced by  
 irradiation in mouse, 448, 468  
 photodynamic action in  
*Escherichia coli*, 158  
 phage T4, 168  
 of unstable gene in *Delphinium*, 423  
 rates of, after irradiation in mouse, 448
- Nakai, S., 158
- Negative interference, intracistron, in *Aspergillus*, 316
- Neurospora crassa*, recombination and wild-type ancestry in, 366
- Nicotiana glauca*, compatibility alleles in, 397
- Notonecta undulata*, genetic variation of growth rates in, 384
- Overdominance, operational, in fowl, 379
- Pandey, K. K., 397
- Paramecium aurelia*  
 antigenic determinants in, 127  
 infection of metagons into, 85  
 killing activity of lysed kappa particles in, 230  
 multiple antigens of single serotype in, 137
- Parasexual cycle in  
*Aspergillus*, 162  
*Verticillium*, 305
- Paszewski, A., 20
- Pekhov, A. P., 495
- Phage T4, mutagenesis with light in, 168
- Phenotypic intermediates, selection for, 341
- Phillips, R. J. S., 448, 468
- Photodynamic action in  
*Escherichia coli*, 158  
 phage T4, 168
- Pigment granules in mouse colour mutants, 432
- 'Plateaued populations', irradiation of, in *Drosophila*, 410
- Pleiotrophy of 'Oligosyndactyly' gene in mouse, 473
- Polymorphism of  
 chromosome structure in *Drosophila*, 27  
 comb-shape in fowl, 379  
 egg albumen in fowl, 39, 257
- Population, effective size of, in *Drosophila*, 410
- Poultry, see Duck and Fowl
- Preer, J. R., 230
- Preer, L. B., 230
- Prevosti, A., 27
- Proteins  
 immunogenetic analysis of, in *Paramecium*, 127, 137  
 polymorphic, in fowl, 39
- Putrament, A., 316
- Recombination  
 during parasexual cycle in *Verticillium*, 305  
 effects on selection responses in *Drosophila*, 1  
 frequencies in transduction experiments, 333

- Recombination—*continued*  
 index of free, in *Drosophila*, 27  
 intracistron, in *Aspergillus*, 316  
 wild-type ancestry affecting, in *Neurospora*, 366
- Reeve, E. C. R., 240, 384  
 Richie, D. A., 168  
 Roberts, C. F., 211  
 Robertson, A., 68, 164, 410  
 Robertson, F. W., 107  
 Rolfes, G. M. H., 335
- Saeki, T., 158  
*Salmonella typhimurium*  
 episomic suppression of phenotype in, 269  
 transduction in, 333
- Sang, J. H., 50  
 Scaife, J., 489, 495  
 Searle, A. G., 171, 448, 468  
 Seed, J. R., 137
- Segregation  
 non-random in *Ascobolus*, 20  
 of compatibility (S) alleles in *Nicotiana*, 397
- Selection  
 initial reverse selection affecting total response to, 68  
 for growth in *Drosophila*, 107  
 for phenotypic intermediates, 341  
 for bristles in *Drosophila*  
 scutellar, 198  
 sternopleural, 1  
 limits to, in *Drosophila*, 410  
 regular responses to, in *Drosophila*, 1
- Sex-chromatin in non-mammals, 354  
 Sexual isolation in *Drosophila*, 150  
 S-gene complex in *Nicotiana*, 397  
 Shafer, S., 137
- Slizynski, B. M., 80, 328, 441  
 Smith-Kearny, P. F., 269  
 Smyth, J. R., 379  
 Spermatocytes, chiasmata in, of *Drosophila*, 80
- Spickett, S. G., 1  
 Statistical problems in study of allometry, 384  
 Survival of *Drosophila* inbreds and crosses, 50  
 Surzycki, S., 20
- Thoday, J. M., 1  
 Threshold character, selection for, in *Drosophila*, 198  
 Transduction analysis in *Salmonella*, 269, 333  
 Translocations, irradiation dose-rate effect on, in mouse, 468  
*Tribolium castaneum*, genotype-environment interaction in, 335  
 Trisomic, cytology of XXY mouse, 328  
 Tyrosinase activity in mouse colour mutants, 432
- Unstable gene in *Delphinium*, 423
- Variability  
 of *Drosophila* inbreds and crosses, 50  
 selection for alleles affecting, 341
- Variance partitioning  
 of bristle number in *Drosophila*, 198  
 of reproductive performance in *Tribolium*, 335
- Verticillium albo-atrum*, parasexual cycle in, 305
- Water boatman, see *Notonecta undulata*  
 Wolfe, H. G., 432