

# INDEX

- adaptation, 190  
 adaptive value, 335  
*Agilops*, 195 *sqq.*  
 affinity, 251  
*Agrobacterium*, 183  
*Agropyron*, 204  
 allele, iso-, 392, 394  
     pseudo-, 392  
 allelomorphism, 266  
     step, 124  
 allelomorphs, 398, 403 *sqq.*  
*Allium*, 5, 192  
*Allobophora*, 156  
 allopolyploidy, 195, 204  
 allosynopsis, 205  
 aneupolyhaploid, 197 *sqq.*  
 anthocyanin, 303 *sqq.*  
 anthoxanthin, 303 *sqq.*  
*Antirrhinum*, 317, 330  
 apomixis, 427  
 apospory, 427  
 ascospore, 153, 154, 267 *sqq.*  
*Aspergillus*, 265, 275  
 assay, chromosome, 373  
 asynapsis, 202  
 autosynopsis, 195, 204, 427  
 auxin, 183
- backcross, 68, 154, 259, 287, 375  
     three-point, 217 *sqq.*  
 bacteroid, 176 *sqq.*  
 balance, cytoplasmic, 327, 335  
     genotypic, 186, 426, 427  
 Baldwin, 289  
 basidiospore, 426  
 Bateman, A. J., 153  
 Bayes theorem, 280 *sqq.*  
 Bennett, J. H., 403  
 Bergersen, F. S., 173  
 Bernstein, H. L., 154  
 biometrics, 422  
 bipartitional function, 406  
 bivalent, 1 *sqq.*, 195, 196  
     interlocked, 48  
     retarded, 25  
*Blabera*, 8  
 blood pH, 155  
 boron deficiency, 181  
 Bowen, J. C., 156  
 Briles, 398  
 Burt, B. L., 322
- Calef, E., 265  
*Callimantis*, 6  
*Campanula*, 18, 19  
 Caspersson, 31  
 cell division, 141, 178
- centromere, 2 *sqq.*, 18, 39 *sqq.*, 133 *sqq.*, 211,  
     212, 245, 251, 252, 260, 274, 385, 392,  
     394  
     cycle, 209  
     homologous, 3  
     non-localised, 287, 288  
     repulsion, 3 *sqq.*  
 certation, 327, 345  
 Chapman, V., 195  
 Chatterley, F. J., 155  
 chiasma, 1 *sqq.*, 25, 209 *sqq.*, 243  
     frequency, 37 *sqq.*, 185 *sqq.*  
     interference, 47  
     position of, 37  
 chlorophyll, 142, 144  
 chlorosis, 291 *sqq.*  
 chromatid aberrations, 284  
 chromatography, partition, 309  
 chromocentre, 210  
 chromosome, 373, 374  
     assay, 373, 374  
     behaviour, 195 *sqq.*  
     genetics of, 185 *sqq.*  
     breakage, 284  
     coiling, 23 *sqq.*, 37 *sqq.*  
     competition, 32  
     condensation, 23 *sqq.*  
     contraction, 6  
     coorientation, 23, 29  
     doubling, 263  
     heterochromatic, 23  
     interphase, 32  
     inversion, 46  
     length, 392  
     *Ucularia*, 37 *sqq.*  
     loops, non-centromeric, 8  
     loss, 263  
     metacentric, 209  
     nucleolar, 284  
     number, 142  
     pairing, 2, 6, 25, 186, 195, 275 *sqq.*  
     recombinant, 374 *sqq.*  
     rucuca, 374  
     segment, 75, 86  
     sex, 23, 117, 209 *sqq.*, 397  
     stickiness, 202, 210, 212  
     synchronisation, 23 *sqq.*
- Cicer*, 202  
*Cimex*, 212  
 cline, 362, 363, 370  
 clone, 154  
 clover, 157 *sqq.*, 175 *sqq.*  
 Clowes, F. A. L., 141  
 c-meiosis, 1  
 c-mitotic inductor, 1  
 coincidence, 245  
 competition *in utero*, 241

- conidium, 265  
 co-pigments, 303 *sqq.*  
*Coprinus*, 426  
 correlated effects, 427  
 cotton, 149  
 cross, diallel, 377, 384  
     inter-specific, 325, 423  
     reciprocal, 325, 378, 381  
 cross-over, 341, 344, 383, 385  
     double, 265  
     frequency, 86, 266  
     mechanics, 265  
     multiple, 92, 129, 265  
     probability, 130  
 crown-gall, 183  
 cycads, 142  
 cytoplasm, 142, 153, 154, 176, 177  
 cytoplasmic effects, 286, 327, 335  
     factor, 172
- Dahlia*, 330  
 Darlington, C. D., 150, 423  
 Darroch, 238  
*Datura*, 143, 145  
 Day, P. R., 426  
 deletions, 149  
 Demerec, M., 285  
 desoxyribose nucleic acid, 31, 183  
 diallel cross, 377 *sqq.*  
 diplospory, 427  
*Diptera*, 209  
 disjunction, 15 *sqq.*  
     non-random, 90  
 distribution, normal, 281  
     gamma, 281  
     geographical, 224  
 Dixon, 289  
 dominance, 380 *sqq.*, 404, 427  
     degree of, 286  
     incomplete, 160, 299  
     unidirectional, 393  
 Dowdeswell, W. H., 51  
 Dowrick, G. J., 37, 426  
*Drosophila*, 8, 23, 46, 68, 89, 117 *sqq.*, 192,  
     224 *sqq.*, 244, 265, 284, 287, 373 *sqq.*,  
     397 *sqq.*  
*Pseudoobscura*, 6, 397  
*Simulans*, 397  
*Verilis*, 265, 397  
*Willistoni*, 420  
 Durrant, A., 153
- ecological barriers, 51 *sqq.*  
 ecology, 361, 424  
 egg size, poultry, 102  
 embryo, plant, 141  
 endosome, 288  
 endosperm, 427  
 Engler, 322  
*Escherichia Coli*, 154, 265  
 estimation problems, 280  
 euchromatin, 213
- Euglenineae*, 287  
*Eustreptocarpus*, 322  
 evolution, 48, 195, 286, 427  
     *Diptera*, 212  
     divergent, 51  
     micro-, 359, 361, 369  
 expressivity, 318, 322
- families, full sib, etc., 93 *sqq.*  
 female, triploid, 68  
 fertilisation, 20  
     self-, 11  
 fertiliser treatments, 153  
 fertility, 204, 228  
 fiducial probability, 280  
 Fincham, J. R. S., 285  
 Fisher, Sir R. A., 280  
 fitness, 152  
 flagellum, 154  
 flax, 153  
 Ford, E. B., 51, 284, 424  
*Fragaria*, 287  
 Fraser Roberts, J. A., 155  
 frequency distributions, 281  
     estimation of, 72 *sqq.*  
     recombination, 67  
 Fung, S. T. C., 397  
 Fyfe, J. L., 286
- gamete, monosomic, etc., 67 *sqq.*  
     mode of origin, 72 *sqq.*  
 \*gene, action, 185, 303  
     complementary, 285, 306, 311, 337, 348,  
     356  
     dominant, 292 *sqq.*, 339  
     dosage effect, 286  
     hypostatic, 333  
     interaction, 303, 314, 381 *sqq.*, 394  
     modification, 300  
     modifying, 165, 170, 309  
     non-random distribution, 285, 286  
     pseudo-allelic, 398  
     relic, 333  
     semi-lethal, 172  
     sub-lethal, 347  
     super, 339, 345, 353  
     supernumary, 154  
     suppressor, 160, 163  
 genetic, balance, 426  
     drift, 62, 368  
     stability, 204  
     variation, 48, 185 *sqq.*  
 generation matrix, 412 *sqq.*  
 genotype-environment interaction, 186 *sqq.*,  
     284  
     isomorphic, 70 *sqq.*  
     maternal, 119 *sqq.*  
     trisomic, 67  
 Glass, B., 424  
 Godward, M. B. E., 287  
 Gowen, J. W., 397  
 Griffing, B., 67

- hæmoglobin, 177 *sqq.*  
 Hagedorn nucleus system, 94  
 Haldane, J. B. S., 286  
 Halnan, K. E., 425  
 Hanstein, 141  
 haploid, 195 *sqq.*, 287  
 Harborne, J. B., 324, 329, 428  
 Harlan, J. R., 422  
 Harland, S. C., 287  
 Hartman, P. E., 286  
 Hartman, Z., 286  
 Haskell, G. M., 427  
 Hayes, H. K., 149  
 Hayman, B. I., 378  
*Hemerocallis*, 145  
 Hemmingway, 289  
 heritability, 93 *sqq.*, 149, 186, 189  
 hermaphrodite, 397, 399  
 heterocaryon, 266, 269, 285  
 heterochromatin, 30, 34, 48, 202, 203, 212,  
     213, 284, 287, 385  
 heterosis, 149  
 heterostyly, 411  
 heterozygosis, 165, 384, 403, 411 *sqq.*  
 histogen, 141  
 homeostasis, 330, 334  
 Howland, A. K., 289  
 Hutchinson, Sir J., 289, 423  
*Hyacinthus*, 46  
 hybrid, graft, 141  
     interspecific, 20, 195 *sqq.*, 304, 427  
 hybridity, structural, 11  
 hypermorph, 321, 332, 334  
 hypersensitivity, 301  
 hypertension, 155  
  
 Immer, F. R., 149  
 immunity, 292  
 inbred line, Rye, 185 *sqq.*  
 inbreeding, 21, 160, 186, 369  
     coefficient, 286  
     depression, 286  
 incompatibility, inter-genotype, 370  
     relational, 286  
     self, 286  
 inheritance, monohybrid, 352  
     tetrasomic, 67  
 implantation mortality, 153  
 insemination, time of, 153  
 interference, 223 *sqq.*, 241 *sqq.*  
     genetic, 129, 131 *sqq.*  
 intersex, 397, 399  
 inversion, 415  
 isoallele, 392, 394  
 isolation, 355, 359, 368  
     in *Maniola*, 51  
  
 Jain, H. K., 23  
 Jameson, 289  
 John, B., 1, 11  
*Juniperus*, 146  
  
 Kalmus, H., 155, 156  
 Karsten, 287  
 karyotype, 20  
 King, E., 287  
 Konzak, C. F., 423  
 Kosambi, coefficient, 242  
     map, 246 *sqq.*  
  
 latent roots, 412 *sqq.*  
*Lathyrus*, 328  
 latin square, 117  
 Lawrence, W. J. C., 337  
 Leedale, G. F., 287  
 lesion, chlorotic, 291, 301  
 lethality, gametic, 345, 354  
     zygotic, 327, 346, 356  
 lethals, 172, 411 *sqq.*  
 Lewis, D., 423  
 Lewis, K. R., 1, 11  
 likelihood, 280  
 linkage, 22, 68, 117, 129, 159, 265 *sqq.*, 282  
     284, 373, 411 *sqq.*  
     complete, 339  
     coupling, 126, 224, 259  
     in auto-tetraploids, 67  
     map, 265 *sqq.*, 286 *sqq.*, 380  
     repulsion, 126  
     theory, 67  
     three-point, 217 *sqq.*, 223 *sqq.*  
*Liturgousa*, 8  
 locus, homologous, 67  
     T in man, 155  
*Locusta*, 46  
*Lolium*, 23 *sqq.*, 425  
 longevity, 172  
 Lucerne, 286  
*Luzula*, 212, 287  
 lymphomatosis, 102  
*Lythrum*, 67  
  
 Macneil, M., 261  
 macrosporogenesis, 427  
 maize, 68, 226, 265, 290  
*Maniola*, 51 *sqq.*, 359  
*Mantis*, 8, 18  
 map-distance, 129 *sqq.*, 226, 273 *sqq.*  
     matrix, 134  
 maternal effect, 153, 172, 260  
 matrix, deficiency, 82  
     gametic, 67 *sqq.*  
     recombination, 133  
 maturity, sexual, 102  
 maximum likelihood, 280  
 McElroy, W. D., 424  
 McWhirter, K. G., 51, 155, 359  
*Medicago*, 286  
 meiosis, 67, 195, 426, 427  
     effect of temperature, 23 *sqq.*, 37 *sqq.*  
     non-chiasmate, 6  
     Rye, 185  
 Miall, 155  
 mildew resistance, 286

- mitosis rate, 142  
mitotic poison, 142  
monocaryon, 426  
mortality, 153, 259  
mouse, 153, 222 *sqq.*, 259 *sqq.*, 261 *sqq.*, 373  
    linkage group V, 233 *sqq.*  
    linkage group VIII, 259 *sqq.*  
    linkage group XIII, 217 *sqq.*  
    vacillans, location of, 259  
mutation, 262, 263, 274, 285, 286, 287, 341  
    422  
    back-, 265  
    dominant lethal, 153  
    lethal, 385  
    suppressor, 285  
*Mycetophillicidae*, 8
- Natrass, R. M., 289  
*Neurospora*, 153, 265, 285  
nitrogen fixation, 177, 181  
non-disjunction, 17, 18  
nucleolar, constriction, 48  
    organiser, 27, 30, 34, 48  
nucleolus, 176  
    adventitious, 30  
    formation, 28, 29  
    inactivation of, 23 *sqq.*  
nucleus, amoeboid, 176  
    extra, 185, 189  
    micro-, 185, 189  
Nutman, P. S., 157, 175
- Ockey, C. H., 284  
*Oenothera*, 327, 414, 419  
Oldham, 155  
organiser, polar, 2  
*Orthoptera*, 2, 18  
Osborne, R., 93  
outbreeding, 21  
Owen, A. R. G., 225
- Panicum*, 143  
parameters, genetic, 67  
    double reduction, 75  
parthenogenesis, 195, 196  
parity, 241, 260  
Parsons, P. A., 117, 217 *sqq.*, 411 *sqq.*  
Pateman, J. A., 153, 285  
Payne, L. C., 129  
*Pelargonium*, 143 *sqq.*  
penetrance, 189, 217 *sqq.*, 263, 316, 317, 330  
*Penthetria*, 8  
*Periplaneta*, 1 *sqq.*, 11 *sqq.*  
perithecium, 265 *sqq.*  
phage genetics, 425  
phenogram, 403 *sqq.*  
phenotype, multisexual, 399  
    system, 403 *sqq.*  
*Phryne*, 8  
*Phyllocatis*, 6, 8  
phylogeny, 195  
pigments, 303 *sqq.*, 329, 332, 335, 355
- Pisum*, 19, 243  
plant breeding, 289  
plastid, 142, 143  
plastrochroon, 141, 142  
pollen, contamination, 149  
    mother cell, 25 *sqq.*, 185 *sqq.*, 197  
polyhaploid, 195 *sqq.*  
polymorphism, sex-controlled, 367  
polyploid, partial, 142  
population, isolated, 365  
position effect, 117  
*Potoroüs*, 18  
poultry, 93 *sqq.*  
predation, 156  
primordium, distochous, 144  
*Primula sinensis*, 328  
Pritchard, 266  
probability, 280  
prototroph, 274  
Prunus, 143 *sqq.*  
pseudogamy, 427  
*Puccinia polysora*, 289 *sqq.*  
*Pyrus*, 426
- Quadling, C., 154
- race, isolated, 20  
radiation, 425  
reciprocal crosses, 378, 381, 384  
reciprocal difference, 287  
recombination, 152, 185, 188, 286, 373 *sqq.*,  
    411 *sqq.*, 427  
    age effect, 236 *sqq.*  
    matrix, 133  
    rate, 287  
    sex effect, 234 *sqq.*  
    value, 223, 234, 268  
reduction, double, 75  
Rees, H., 185  
resistance, genetics of, 300  
Revell, 284  
*Rhizobium*, 157, 175 *sqq.*  
Rhoades, M. M., 295  
ribose nucleic acid, 30, 31, 46  
Riley, R., 195  
Roberts, L. M., 291  
Robinson, 324  
root nodule, size, number, 157 *sqq.*  
    structure, 175 *sqq.*  
*Rubus*, 427  
Rye, 185  
    perennial, 24
- Saccharomyces, 265  
*Salmonella*, 154, 285, 286  
*Sansviera*, 145  
Satchell, J. E., 156  
*Scatopse*, 8  
*Schistocerca*, 46  
segregation, 185, 188  
    frequency, 270 *sqq.*  
    XY, 209 *sqq.*

- Sear, E. R., 422  
 selection, 93 *sqq.*, 150, 154, 168, 228, 284,  
     297, 373, 427  
     disruptive, 284  
     intensity, 286  
     natural, 185, 190, 192, 286  
     response, 287  
     stabilising, 284  
 sex, embryology, 398  
     ratio, age effect, 240 *sqq.*  
 sib-mating, 414  
 significance tests, 280 *sqq.*  
 Sirlin, J. L., 259  
 Smith, D. C., 149  
*Solanum*, 143  
*Sorghum*, 149  
 sorus, 291, 293  
 spermatocyte, 12, 15, 210  
 sperm vitality, 153  
 spindle, 2, 23  
     elongation, 5  
*Spirogyra*, 287  
 stability, 284  
*Stagomantis*, 6, 9, 427  
 Stanton, W. R., 290, 291  
 starch, 177  
 statistical methods, 280  
*Stenobothrus*, 46  
 sterility, 286, 401  
     self-, 265, 411  
 Stocker, B. A. D., 154  
 Stone, 398  
 Storey, H. H., 289 *sqq.*  
*Streptocarpus*, 303 *sqq.*  
 Strickland, 275  
 Sturgess, V. C., 303 *sqq.*  
 subspeciation, 369  
 sugar cane, 149  
 symbiosis, 427  
 symbiotic effectiveness, 157 *sqq.*, 175 *sqq.*  
  
*Tanyseiptera*, 368 *sqq.*  
*Tauromantis*, 6, 8  
 temperature, effect on meiosis, 23 *sqq.*,  
     37 *sqq.*  
 terminalisation, 47  
     coefficient, 41  
  
 tetraploid tissue, 176, 180  
 tetrasomics, 416  
*Thaumalea*, 8  
 Thoday, J. M., 284, 287  
 Thorpe, 289  
*Tipula*, 209  
 tomato, 68  
*Tradescantia*, 37 *sqq.*, 144 *sqq.*  
 transduction, 154, 185, 286  
 translocation, 15  
*Trifolium*, 425  
 triploid, 398, 401  
*Triticum*, 195 *sqq.*, 201, 423  
*Triton*, 44  
 trivalent, 197 *sqq.*  
 Tunica-carpus theory, 141 *sqq.*  
  
 univalent, 195 *sqq.*, 210  
 uredospore, 290  
*Uvularia*, 37 *sqq.*  
  
 variation, additive, 380 *sqq.*  
     continuous, 282  
     discrete, 282  
     dominance, 380 *sqq.*  
     phenotypic, 95, 361, 363, 427  
     subsexual, 427  
*Verbena*, 354  
 viability, 171, 172, 227, 412  
     differential, 217  
     disturbance, 230  
     *Drosophila*, 117  
     poultry, 101  
     zygotie, 345  
*Vicia*, 284  
*Viola*, 243  
 virus, 424  
  
 Walker carcinoma, 284  
 Wallace, M. E., 223  
 Weir, 155  
 wheat, 195  
     hexaploid, 203  
 Wylie, A. P., 423  
  
*Zea*, 19  
*Zebrina*, 144