



Contents

<i>Introduction</i>	ix
<i>A Brief Timeline of Evolutionary Thought</i>	xi
On the origin of species by means of natural selection (excerpt)	1
C. Darwin (1859)	
The descent of man and selection in relation to sex (excerpt)	16
C. Darwin (1871)	
A new factor in evolution	32
J. M. Baldwin (1896)	
The incidence of alkaptonuria: a study in chemical individuality	44
A. E. Garrod (1902)	
Mendelian proportions in a mixed population	61
G. H. Hardy (1908)	
Sex limited inheritance in <i>Drosophila</i>	64
T. H. Morgan (1910)	
Artificial transmutation of the gene	68
H. J. Muller (1927)	
The genetical theory of natural selection: a review	73
S. Wright (1930)	
A critique of the species concept in biology	82
T. Dobzhansky (1935)	
Genetic control of biochemical reactions in <i>Neurospora</i>	95
G. W. Beadle and E. L. Tatum (1941)	
The species concept	104
G. G. Simpson (1951)	
Molecular structure of nucleic acids: a structure for deoxyribose nucleic acid	119
J. D. Watson and F. H. C. Crick (1953)	

Hybridization as an evolutionary stimulus	122
E. Anderson and G. L. Stebbins (1954)	
An experimental study of interaction between genetic drift and natural selection.	134
T. Dobzhansky and O. Pavlovsky (1957)	
An equilibrium theory of insular zoogeography	144
R. H. MacArthur and E. O. Wilson (1963)	
The genetical evolution of social behavior: I	160
W. D. Hamilton (1964)	
Butterflies and plants: a study in coevolution	184
P. R. Ehrlich and P. H. Raven (1964)	
A molecular approach to the study of genic heterozygosity in natural populations: II. amount of variation and degree of heterozygosity in natural populations of <i>Drosophila pseudoobscura</i>	201
R. C. Lewontin and J. L. Hubby (1966)	
Construction of phylogenetic trees	217
W. M. Fitch and E. Margoliash (1967)	
Gene regulation for higher cells: a theory	224
R. J. Britten and E. H. Davidson (1969)	
Protein polymorphism as a phase of molecular evolution	234
M. Kimura and T. Ohta (1971)	
Punctuated equilibria: an alternative to phyletic gradualism	238
N. Eldredge and S. J. Gould (1972)	
Nothing in biology makes sense except in the light of evolution	273
T. Dobzhansky (1973)	
The logic of animal conflict	279
J. Maynard Smith and G. R. Price (1973)	
Parent-offspring conflict	284
R. L. Trivers (1974)	
Evolution at two levels in humans and chimpanzees	301
M.-C. King and A. C. Wilson (1975)	
Evolution and tinkering	312
F. Jacob (1977)	
Phylogenetic structure of the prokaryotic domain: the primary kingdoms	319
C. R. Woese and G. E. Fox (1977)	

Mitochondrial DNA clones and matriarchal phylogeny within and among geographic populations of the pocket gopher, <i>Geomys pinetis</i>	323
J. C. Avise, C. Giblin-Davidson, J. Laerm, J. C. Patton, and R. A. Lansman (1979)	
The spandrels of San Marco and the Panglossian paradigm: a critique of the adaptationist programme	329
S. J. Gould and R. C. Lewontin (1979)	
Is a new evolutionary synthesis necessary?	348
G. L. Stebbins and F. J. Ayala (1981)	
Biological classification: toward a synthesis of opposing methodologies	354
E. Mayr (1981)	
Sexual selection, social competition, and speciation	362
M. J. West-Eberhard (1983)	
The significance of responses of the genome to challenge	392
B. McClintock (1984)	
On the virtues and pitfalls of the molecular evolutionary clock	403
F. J. Ayala (1986)	
Intraspecific phylogeography: the mitochondrial DNA bridge between population genetics and systematics	414
J. C. Avise, J. Arnold, R. Martin Ball, E. Bermingham, T. Lamb, J. E. Neigel, C. A. Reeb, and N. C. Saunders (1987)	
The evolution of sex and recombination	449
B. Charlesworth (1989)	
Experimental phylogenetics: generation of a known phylogeny	454
D. M. Hillis, J. J. Bull, M. E. White, M. R. Badgett, I. J. Molineux (1992)	
<i>Gaia</i> , nature worship and biocentric fallacies	459
G. C. Williams (1992)	
Homeotic genes and the evolution of arthropods and chordates	468
S. B. Carroll (1995)	
Transposable elements as sources of variation in animals and plants	476
M. G. Kidwell and D. Lisch (1997)	
The chimeric eukaryote: origin of the nucleus from the karyomastigont in amitochondriate protists	485
L. Margulis, M. F. Dolan, and R. Guerrero (2000)	
The evolutionary fate and consequences of duplicate genes	492
M. Lynch and J. S. Conery (2000)	
Ecology and the origin of species	498
D. Schluter (2001)	

Microbial minimalism: genome reduction in bacteria pathogens	508
N. Moran (2002)	
Unpredictable evolution in a 30-year study of Darwin's finches	513
P. R. Grant and B. R. Grant (2002)	
Genetics and the making of <i>Homo sapiens</i>	519
S. B. Carroll (2003)	
Evolution experiments with microorganisms: the dynamics and genetic bases of adaptation	529
S. F. Elena and R. E. Lenski (2003)	
Epilogue. Science and the Public	543
Index	545
<i>Color illustrations follow the index</i>	