

Professor Edward Osborne Wilson



Birth: June 10, 1929
Birmingham, Alabama

Nationality: United States of America

Position: Frank B. Baird, Jr. Professor of
Science and Curator in Entomology,
Museum of Comparative Zoology,
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Education and Career:

1949	B. S. (bio1.), University of Alabama
1950	M. S. (bio1.), University of Alabama
1955	Ph. D. (bio1.), Harvard University
1956–1958	Assistant Professor of Biology, Harvard University
1958–1964	Associate Professor of Zoology, Harvard University
1964–1976	Professor of Zoology, Harvard University
1973–	Curator in Entomology, Museum of Comparative Zoology, Harvard University
1976–	Frank B. Baird, Jr. Professor of Science, Harvard University

Awards and Distinctions:

1969	Member, National Academy of Sciences
1971	Mercer Award, Ecological Society of America
1979	Pulitzer Prize, General Non-fiction, for "On Human Nature"
1983	Honorary Life Member, British Ecological Society
1984	Tyler Prize for Environmental Achievement
1985	L. O. Howard Distinguished Achievement Award, Entomological Society of America
1990	Foreign Member, Royal Society of London
1990	Foreign Member, Finnish Academy of Science and Letters
1990	Crafoord Prize, Royal Swedish Academy of Sciences
1990	Gold Medal, Worldwide Fund for Nature
1991	Pulitzer Prize, General Non-fiction, for "The Ants"
1992	Honorary Life Member, Zoological Society of London

Representative Works:

1. Wilson, E. O. (1953). The origin and evolution of polymorphism in ants. *Quarterly Review of Biology*, **28**: 136-156.
2. Brown, W. L. and Wilson, E. O. (1956). Character displacement. *Systematic Zoology*, **5**: 49-64.
3. Wilson, E. O. (1961). The nature of the taxon cycle in the Melanesian ant fauna. *American Naturalist*, **95**: 169-193.
4. Wilson, E. O. (1962). Chemical communication among workers of the fire ant. *Solenopsis saevissima* (Fr. Smith), 1: The organization of mass-foraging; 2: An information analysis of the odour trail; 3: The experimental induction of social responses. *Animal Behaviour*, **10**: 134-147, 148-158, 159-164.
5. MacArthur, R. H. and Wilson, E. O. (1967). *The Theory of Island Biogeography*. Princeton Univ. Press, Princeton, NJ. 203pp.
6. Simberloff, D. S. and Wilson, E. O. (1969). Experimental zoogeography of islands: the colonization of empty islands. *Ecology*, **50**: 278-296.
7. Wilson, E. O. (1971). *The Insect Societies*. Belknap Press of Harvard Univ. Press, Cambridge, MA. 548pp.
8. Wilson, E. O. (1975). *Sociobiology: The New Synthesis*. Belknap Press of Harvard Univ. Press, Cambridge, MA. 697pp.
9. Wilson, E. O. (1984). The relation between caste ratios and division of labor in the ant genus *Pheidole* (Hymenoptera: Formicidae). *Behavioral Ecology and Sociobiology*, **16**: 89-98.
10. Wilson, E. O. (1990). *The Ants*. Belknap Press of Harvard Univ. Press, Cambridge, MA. 732pp.
11. Wilson, E. O. (1992). *The Diversity of Life*. Belknap Press of Harvard Univ. Press, Cambridge, MA. 424pp.

Academic Achievements:

Prof. Edward O. Wilson has conducted ecological, biogeographical and ecological studies, mainly on ants, and published a number of original books and theses. He has also made a great contribution to the establishment of sociobiology. Recently he earnestly concerns himself in the challenge to the biodiversity crisis.

In the mid-1950s, Prof. Wilson conducted field investigations on ants in the Pacific islands, New Guinea, Australia, Sri Lanka, etc., and upon the basis of these experiences, he developed key concepts related to evolutionary ecology, such as "character displacement" and "taxon cycle". Then, in collaboration with the late Robert MacArthur, he published "The Theory of Island Biogeography", in which

they presented a clear model (or perspective) that the fauna of an area at any one time was to be viewed as a consequence of the opposing dynamic process of colonization and extinction and later, in testing the models, he conducted large-scale field experiments with Dr. Daniel S. Simberloff. From this theory of island biogeography, the concept of r and K selection was introduced, of which idea had a great impact upon evolutionary biologists who were engaged in the research of life history strategies. Moreover, this theory contributed largely to the development of community ecology and population ecology.

Prof. Wilson conducted his research earnestly, not only out in the fields but also in his laboratory at the university. His detailed morphological analysis of the caste system of ants had a great impact on his followers' research tendency in the social systems of ants. Also, he stressed the importance of the role of chemical communication for the social unity of ants, and provided a clue to the discovery of many pheromons of ants. His comprehensive research on ants was compiled in "The Ants" published in 1990 under coauthership with Dr. Berthold K. Hölldobler.

Another important aspect of Prof. Wilson's research achievements is displayed in his largest volume "Sociobiology: The New Synthesis" (1975) and a subsequent series of books dealing with sociobiology. In these books he insisted that, in order to understand social activities of the animal, the integration of ecology, ethology and population genetics is necessary. He explained that, such problems as behavioral and reproductive trade-offs or costs and benefits of altruism should also be examined by population genetical approaches. In addition to behaviors and societies of the animal, Prof. Wilson referred to those of mankind and explained that, although social behaviors of mankind are mostly based on learning and culture, some are on something genetical. His statement in this regard aroused a great interest among anthropologists, psychologists, sociologists, politicists, and so on.

Since around 1985, Prof. Wilson has been positively involved in the campaign against biodiversity crisis under the sponsorship of the National Academy of Sciences, and the Smithsonian Institution. In 1988 he edited an important volume "Biodiversity" and in 1992 his splendid book for enlightenment entitled "The Diversity of Life" was published.

Thus, Prof. Wilson has made a considerable contribution not only to the development of ecology of ants and other social insects, but also to the overall progress of ethology, evolutionary biology and other related fields of science. He likewise established the discipline of sociobiology and his contribution to challenges to the biodiversity crisis, one of the most important issues on terrestrial environment, is widely recognized.