

# Edmund Wilson

- Discovered and advanced the theory of sex determination by chromosomes
- First American cell biologist
- Communicated with Nettie Stevens

Edmund Beecher Wilson was born in Geneva, Illinois, in 1856. At the age of 17, Wilson enrolled in college at Antioch to study biology. The following year he transferred to Yale University, where he graduated in 1878. He went on to obtain his Ph.D. in 1881 from Johns Hopkins University.

Between the years of 1885–1891, Wilson was a professor of biological sciences at Bryn Mawr College. He soon became an expert in cytology, the study of chromosomes, and began investigating the role of heredity in cellular development. Wilson transferred to Columbia University in 1891, where he eventually became head of the zoology department and elevated it to a peak of international prestige. His first experimental studies in embryology led him to investigations at the cellular level.



In 1898, as an eminent embryologist, Wilson gave a now famous lecture about cell lineage at the Marine Biological Laboratory in Woods Hole, Massachusetts. This lecture revealed the discovery that certain insects share the same groups of cells, leading Wilson to believe that they also shared ancestry.

In 1905, Wilson published a paper titled *Studies on Chromosomes*, which was based on his studies of insect chromosomes. In this paper, Wilson advanced the theory of sex determination by chromosomes. In the same year, Wilson was asked to review Nettie Stevens' paper on the subject. Technically, Wilson's paper was already in press when he read Stevens' work (he heartily endorsed its publication). However, both Wilson and Stevens are credited with the theory of sex determination by chromosomes because they arrived at it independently. Both Wilson and Stevens ended up referencing each other in their papers to support their conclusions. Their work established the importance of chromosomes in heredity and helped Thomas Morgan interpret some early genetic research results.

Wilson also published books on cellular structure and general biology. Herman Muller, one of Wilson's students, described him as a kind, scrupulous, careful man who was aware that ideas were useful only when communicated properly. After 40 years spent in research and teaching, Wilson retired from Columbia in the early 1930s. He died in 1939. Wilson is credited with being the first American cell biologist. Indeed, the American Society for Cell Biology awards an E.B. Wilson medal every year to a distinguished cell biologist.

## Resources

<http://www.columbia.edu/cu/alumni/Magazine/Fall2002/Wilson.html>

<http://www.devbio.com/article.php?ch=23&id=261>

Morgan, T.H. "Edmund Beecher Wilson." *Biographical Memoirs*. Series by the National Academy of Sciences. 21 (1940): 315–342.

Muller, H.J. "Edmund B. Wilson — An Appreciation." *American Naturalist* 77:5–37 (1943): 142–172.