

Alfred russel wallace



Alfred Russel Wallace is one who has been overlooked in the ever-dominating association of evolutionary theory and the work of Charles Darwin. Wallace, the British naturalist is best known for his theory of evolution based upon natural selection and his geographical distinction of organisms, which he and Darwin both became aware of through similar adventures and thought. Wallace was born in a village in Monmouthshire, England in 1823.

He left school at the age of 14 and worked as an apprentice with his brother. He began surveying land in counties around his home and later went on to work as a drawing master at collegiate school in Leicester where he became interested in botany and other sciences. When he was twenty-five years old, he made expedition to the Amazon River with a fellow teacher named Henry Walter Bates. He spent four years covering the tropical jungle of Brazil collecting specimens and taking notes.

On his journey home, his ship cut on fire and his entire collection was lost, although a passing ship rescued him and his crew. Though disappointed, Wallace struggled to rewrite the story of his journey in Brazil, *Travels on the Amazon and Rio Negro* in 1853. He then began another adventure in the islands of Malaysia, where he worked collecting exotic animals and insects for European merchants. This is where he developed the basis for the theory of natural selection.

I was suffering from a sharp attack of intermittent fever, and every day during the cold and succeeding hot fits had to lie down for several hours, during which time I had nothing to do but to think over any subjects then particularly interesting me. During his sickness he began to put all his

discoveries of the zoological differences of species into a theory that he describes: Why do some die and some live? And the answer was clearly, that on the whole the best fitted live.

From the effects of disease the most healthy escaped; from enemies, the strongest, the swiftest, or the most cunning; from famine, the best hunters or those with the best digestion; and so on. Then it suddenly flashed upon me that this self-acting process would necessarily improve the race, because in every generation the inferior would inevitably be killed off and the superior would remain – that is, the fittest would survive. Darwin was also discovering this concept, known as natural selection.

In other words, natural selection is the process by which environmental effects lead to certain advantages in reproductive and survival rates among individuals of a population. Organisms reproduce with different genes or traits creating fitter organisms that adapt better through generations. In retrospect, certain characteristics that hinder reproductive advantage tend to disappear from generation to generation as less fit organisms die out and reproduce less. Both Wallace and Darwin never used the word evolution but descent with modification described this theory with a branching tree model.

Wallace wrote *On the Tendency of Varieties to Depart Indefinitely from the Original Type*, and sent a copy to Darwin. Wallace and Darwin's manuscripts were read at the same Linnaean Society meeting in July of 1858. Darwin then published his own theory known as *On the Origin of Species* a year later which he received credit for his contribution, though Wallace was never

given as much credit. Wallace did receive some recognition for his accounts of his travels, and his study on the distribution of organisms.

Wallace's Line was a supposed boundary between geographical regions where many fish, bird, and mammals are represented heavily on one side of the line, but fewer on the other side. Wallace wrote In mammalia and birds, the distinction is marked by genera, families, and even orders confined to one region; insects by a number of genera and little groups of peculiar species, the families of insects having generally a very wide or universal distribution. " Though Darwin went on to have more recognition and credit than Wallace, there were never any hard feelings between the two.

In 1870 he (Darwin) had written to me, " I hope it is a satisfaction to you to reflect – and very few things in my life have been more satisfactory to me – that we have never felt any jealousy towards each other, though in some sense rivals. I believe I can say this of myself with truth, and I am absolutely sure it is true of you. " The above long letter (pp. 14-15) will show that this friendly feeling was retained by him to the last, and to have thus inspired and retained it, notwithstanding our many differences of opinion, I feel to be one of the greatest honours of my life.