

## NOTES AND NEWS.

ALFRED RUSSEL WALLACE, D. C. L., O. M., F. R. S., an Honorary Fellow of the American Ornithologists' Union, died on November 7, 1913, in the ninety-first year of his age, and after sixty-four consecutive years of scientific activity.

Wallace, while standing in the highest rank among ornithologists, entomologists and botanists is best known in the broader field of philosophy and evolutionary thought, where his name is closely linked with those of Lyell and Darwin; and especially will he ever be remembered for his joint publication with Darwin of their independent discovery of the theory of Natural Selection. Wallace was typical of a group of scientific men of the last century, which may well be known by the name 'naturalists,' among which he ranked at the very top and of which he was the last survivor.

In the present days of specialization it seems impossible for men of this type to develop and it is doubtful if the world will ever again see men of such broad learning as those who contributed to the fame of what Wallace himself has termed 'the Wonderful Century.'

He was born in the village of Usk in Monmouthshire, England, on January 8, 1823, the son of Thomas Vere Wallace and Mary Anne Grennell. He attended grammar school until about thirteen years of age and apparently received much educational benefit from association with his father who was a man of literary tastes then engaged in tutoring.

The family being in poor circumstances Wallace was taken from school and for seven years pursued the study and practice of land surveying with his brother. His attention had already, through some of his early reading, been directed to plants, and he now in his spare time amused himself by collecting specimens of the wild flowers of the vicinity of the towns where he lived and to name them as well as he could from certain inadequate books on botany of which he had come into possession. He says in his autobiography of these early collections, "I experienced the joy which every discovery of a new form of life gives to the lover of nature, about equal to the rhapsodies which I afterwards felt at every capture of a new butterfly on the Amazon, or at the constant stream of new species of birds, beetles and butterflies in Borneo, the Moluccas and the Aru Islands."

Surveying not proving profitable, he gave it up when he became of age and obtained a position as a teacher in a school in Leicester. Here he met Henry W. Bates, a man of kindred tastes, who had a collection of British beetles which amazed Wallace, as he had no idea that such a variety of these insects occurred in England. He at once became an ardent entomologist and advanced in his knowledge of this branch of natural science as rapidly as he had in botany.

Influenced by the perusal of Edward's 'Voyage up the Amazon' Wallace

and Bates decided upon an expedition to Brazil for the collecting of scientific specimens. They arranged with Samuel Stevens to act as agent, in receiving and disposing of their collections and Wallace set about practicing the shooting and skinning of birds, the study of ornithology having apparently failed to attract him prior to this time. They sailed on April 20, 1848, and after a voyage of twenty-nine days landed at Para.

Wallace remained in Brazil until 1852, making excursions partly in conjunction with Bates, partly on his own account. He ascended the Rio Negro to the second cataract at Juaurité on the river Uaupes, farther than any other explorer succeeded in penetrating until 1881. He made extremely valuable collections especially of insects and birds, but being shipwrecked on the voyage home, he lost all of his private collections, and apart from his experience, profited only by the proceeds of the material sold for him by Stevens.

He had however made quite a reputation as a collector and explorer and had contributed a paper to the Zoological Society on the Umbrella-bird of the Amazon, so that he gained the entrée to scientific circles in London. During the next two years he spent most of his time at the British Museum familiarizing himself with the literature and collections bearing upon the natural history of the East Indies, whither he planned to direct his next explorations. He secured a copy of Bonaparte's 'Conspectus Avium' in which he marked all the East Indian birds adding on the margins descriptions of additional species, as he had done with his first book on botany at the outset of his natural history studies. He was thus, he says, "able to identify nearly every species" that he found, and he adds, "no one who is not a naturalist and collector can imagine the value of this book to me." He sailed for the East Indies in 1854.

Almost at once he began sending back not only collections of birds and insects but contributions to various scientific journals treating of a variety of subjects, but especially of comparisons of the faunas of different islands, and upon various topics bearing upon the origin and relation of species. In 1858 from the island of Ternate, he wrote his famous letter to Darwin, outlining the theory of Natural Selection and from then on this subject was ever uppermost in his mind. While his knowledge of the bird life of the East Indies at this time was greater than that of any other naturalist, he described but few species, passing rapidly from the systematic view of nature to the broader philosophical attitude which grew out of it and which characterized his future life with ever increasing force. He says himself: "I had in fact been bitten by the passion for species and their description and if neither Darwin nor myself had hit upon Natural Selection I might have spent the best years of my life in this comparatively profitless work. But the new idea swept all this away. I have for the most part left others to describe my discoveries and have devoted myself to the great generalizations which the laborious work of species-describers has rendered possible."

For eight years he continued his explorations extending them to the Aru Islands and the coast of New Guinea in the pursuit of Birds of Paradise.

In 1862 he returned to England, his mind filled with ideas and data for the great works that he was later to produce. First appeared 'The Malay Archipelago' his 'journal of researches' as it has been termed, dealing with zoölogy, botany, anthropology and physical geography as only the master hand can deal. Passing over the various publications on Natural Selection and kindred subjects which have been covered by abler reviewers in various sketches of the life and works of the great naturalist, we must call attention to two works which deal more directly with ornithology, viz. the 'Geographical Distribution of Animals', 1876, and 'Island Life', 1881, which are really the pioneer treatises on zoogeography. Here his earlier announcement of the imaginary line between Bali and Lombok separating the Indian and Australian zoölogical regions — since known as 'Wallace's Line' — is fully elaborated, while the zoölogical regions named by Sclater are adopted and amplified.

His ornithological communications to 'The Ibis' and other journals from 1850 to 1875 are particularly noteworthy, covering various aspects of the science. In one paper dealing with the arrangement of the families of birds published in 1856 he arrived at the same conclusions as to the proper limitation of the Passeres from a study of external characters alone as were later reached by avian anatomists. This was a matter of much gratification to Wallace and, in commenting upon the work of the anatomists, he, called attention to his earlier publication and emphasized the premises upon which his conclusions were based. Indeed he seems to have been rather impatient of minute anatomical investigations, preferring to base his generalizations upon the study of external characters, and the grosser relations of animals and plants to their environment.

Wallace married, in 1866, the daughter of Mr. William Mitten and spent the remainder of his life in England except for a visit to Canada and the United States in 1886 and trips to Switzerland, Scotland, etc.

His literary activity continued almost to the time of his death and his last volume 'The World of Life' published in 1911, to quote from Prof. Osborne "gives as clear a portrayal of his final opinions as that which his first essay of 1858 portrays of his early opinions."

In considering Wallace as an ornithologist one is impressed with the great possibilities which the science contains, and the varying degrees to which they are developed by different workers in the field, each according to his ability. There is the painstaking observer to whom generalization is impossible and who often fails to distinguish between that which is worthy of record and that which is worthless; the specialist who devotes all his resources to one limited field, species-description, anatomy, detailed-distribution or what not, and is often blind to anything beyond; and finally the broad minded philosopher to whom ornithology is but one of many fields from which to glean the facts that are stored away in his mind to form the basis for those generalizations which are to revolutionize scientific thought. We cannot limit ornithology to any one of these, each contributes to the measure of his ability, and the fact that Alfred Russel Wallace drew

his inspiration from other fields as well, renders his loss to ornithology none the less.—W. S.