

IN MEMORIAM Dr. Harry R. Wallace 1924–2011

Harry Wallace, an Honorary Member of the Society of Nematologists and a Fellow of the Australian Academy of Science, died peacefully on 26 July, 2011 at his home in South Australia, at the age of 86.

He was born in Lancashire, Northern England, in 1924, and obtained an Honours B.Sc. in Zoology and Ph.D., (1952) in Entomology at the University of Liverpool and from which he, subsequently, received a D.Sc., (1960). On joining the sugar beet section of the School of Agriculture, Cambridge University, where the nematologist, Fred Jones, was Head, Harry changed his research target from insects to nematodes. He then embarked on what was to become a major focus of his career, namely the influence of environmental factors on nematode behaviour. Harry was a man with a mission, and as his research rapidly evolved he was influenced greatly by his discussions with the soil physicists, E.C.Childs and N.Collis-George, and also with Sir James Grey, Professor of Zoology and a world leader in the biomechanics of animal movement.

In 1955, Harry moved, together with the other Cambridge nematologists (Fred Jones and Audrey Shepherd), to the Nematology Department, Rothamsted Experimental Station (as it was then known). Over the next five years his iconic research on nematode behaviour resulted in the classic series of over 20 papers in which he defined the main perambulatory parameters of larval *Heterodera schachtii* and of *Ditylenchus dipsaci* and *Aphelenchoides ritzemabosi* in soil as being body length, soil particle size, soil moisture and temperature. Through collaboration, he extended his ideas to further understand the behavioural phenomena in the host-parasite relationship of *A. ritzemabosi* (with J.J. Hesling), invasion of the host plant by *H. schachtii* and *H. gottlingiana* (with A.M. Shepherd), the mechanics of nematode leaping (with E. M. Read) and in comparing animal and plant parasitic nematodes (with C.C. Doncaster). His first book, "The Biology of Plant Parasitic Nematodes" (Edward Arnold, 1963), encapsulates his perspective on these matters. He valued these formative years at Rothamsted where he was surrounded by the ambiance and collegiality of a thriving research environment in what was, at that time, one of the world's leading agricultural research centres. Nevertheless, he got the "seven-year itch" to stretch his wings for new challenges, and a visit



Photo courtesy Nematology

by Professor W. R. (Buddy) Rogers, from Australia, was the final straw that triggered his decision to emigrate, in 1963, to Australia.

Once there, he joined the Division of Horticulture of CSIRO in Adelaide, where Alan Bird was located. He was given his head to choose his own research direction, and in short order, he evaluated the overall biological and economic aspects of a major cyst nematode (*Heterodera avenae*) problem on wheat and identified the issues that needed to be addressed to resolve it. However, his long-term research continued to be on movement, egg hatch and survival, especially of *Meloidogyne javanica*. After a few years, "storm clouds appeared on the horizon" and he was asked by executive management how his research contributed in a practical way to the control of nematode problems in horticultural

crops. He had always believed that so-called basic research didn't need justification, but now he had his doubts! This change of philosophy was a contributory reason to his applying for the position of Chair of Plant Pathology at the Waite Institute, University of Adelaide. He was successful, and was appointed in 1971.

This was a life-style change for Harry, as in addition to research he had to teach undergraduates, supervise graduate students and carry a significant administrative load. He soon mastered all these areas and his research continued to evolve. It became more field oriented and, together with his graduate students, he began to focus especially on the ecological basis of disease causation. The interactive roles of the abiotic and biotic environmental factors, and especially that of the host, on the final expression of a nematode disease was a complexity that fascinated him. His philosophy is expressed in his second book, "Nematode Ecology and Plant Disease" (Edward Arnold, 1973), and in review papers eg., "The diagnosis of plant disease of complex etiology" (Annual Review of Phytopathology, 1978) and "Environment and plant health: a nematological perception" (Annual Review of Phytopathology, 1989). It was a happy department, and he enjoyed his years at the Waite tremendously through his interactions with colleagues, students and visiting scholars in the department and his administrative contacts, both internal and external to the University. His success, indeed his popularity, was due to his clarity of vision and analysis, straight forward approach to issues, his affable, caring nature and his communication skills (both written and oral). Harry was appreciated too by nematologists around the globe through his reviewing of their manuscripts, and the

editorial board of one journal, *Nematologica*, benefited from his skills for over 20 years.

Some of these attributes were honed in the difficult WWII period which he faced immediately following his graduation from high school. His subsequent service, in the Royal Navy, as a Sub-Lieutenant on corvettes and frigates on North Atlantic convoy escort duty, anti-U-boat missions in the Western Approaches and on convoys to Murmansk he described as, a "time of discomfort and some stress"! He missed D-day because he was in hospital with a broken collar bone, caused by playing rugby! After all was over, in 1945, he was sent to Sydney, Australia for 3 months to join the British Pacific Fleet. He thought that Australia was "terrific", and this impression, undoubtedly, made his subsequent decision to emigrate there easier.

He was a physically active person, squeezing in a game of tennis whenever he had the opportunity, and he always took a tennis racket with him when travelling overseas. He took up long distance running in the late 1970s, competing in marathons and triathlons. His environmental interests continued to be valued after his retirement from the University, in 1989, through his service on conservation and water management boards eg., President, Friends of Coorong National Park, Chairman, Coorong Consultative Committee and by serving as a consultant to the Government of South Australia on wetlands and agricultural development.

Harry is survived by his wife, Margaret, whom he married in 1950 (she herself is an accomplished pianist), their two daughters, Amanda and Sally, and two grandsons, Ben and James.

John M Webster