

## PETER LAMONT MILLER

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A brief biography of Dr P.L. Miller (20 May 1931 - 24 March 1996), Council Member of the *Societas Internationalis Odonatologica* and one of the world's leading odonatologists is followed by his odonatological bibliography (1961-1996; 81 titles). Most of his papers combine anatomy, physiology and studies of behaviour. A bibliography of obituaries is appended.

Dr PETER MILLER, one of the world's leading odonatologists died of melanoma on 24th March 1996, after a short illness which developed while he was in Uganda. He had been awarded a Professorship by the Third World Academy of Science and was just starting a period of teaching and research there accompanied by his wife Kate.

Peter was born in Edinburgh. His childhood was spent at Barnet near London; Peter used to enjoy accompanying his father on his fishing expeditions to Scotland – perhaps his interest in dragonflies started then. Later the family moved to Houghton, near Huntingdon, and then to Exning in Suffolk. On his bicycle he became very familiar with Suffolk and Norfolk and the natural history there.

In 1951, after doing his National Service, he went up to Downing College, Cambridge. Initially he planned to become a veterinarian like his father, who had been a Professor of Veterinary Science in Edinburgh and London. At Cambridge Peter's veterinary studies introduced him to physiology, but convinced that it was the physiology of insects and other invertebrates that he really wanted to study, he changed course and read Physiology, Zoology and Botany for Part I of the Natural Sciences Tripos and Zoology for Part II. He obtained a First Class in both parts of the Tripos and was awarded the Frank Smart Prize in 1955 as the best zoologist of the year. He remained in the Zoology Department to do research in the famous Insect Physiology Unit of the late Professor V.B. Wigglesworth, while from 1956 to 1959 holding a Research Fellowship at Downing College. He was awarded his PhD for work on the control of respiration in the desert locust and in a number of species of



Fig. 1. With Kate and his mother in the garden in Oxford; summer 1989.

dragonflies.

1959 was an extremely important year for Peter: he married Kate Palmer, a fellow Cambridge biologist whom he had first met on a botany field course in Austria in 1954, and he embarked on his teaching career by becoming a Lecturer in Zoology at Makerere College, Kampala, Uganda. He was now able to realise a burning ambition to become acquainted with the biology of a tropical country.

He began at once to collect and observe dragonflies and he delighted in the variety and abundance to be found.

In 1962 he left Makerere on appointment as a Lecturer in Zoology at the University of Oxford. He became a Fellow and Tutor at The Queen's College, Oxford. The rest of his working life was based on Oxford, though he made frequent visits abroad, mainly to Africa. He lectured and undertook research at Makerere University, Uganda and at Ibadan University, Nigeria. In 1973 he spent a sabbatical period of eight months working on locust endocrine mechanisms at the International Centre for Insect Physiology and Ecology (I.C.I.P.E.), Nairobi, Kenya. For four separate years he was an external examiner at Harare University, Zimbabwe. He made five visits to Hunter's Lodge in Kenya to study dragonfly reproduction, liaising with Nairobi University and I.C.I.P.E. In 1987 and 1990 he made research visits to Madurai University, Tamil Nadu, India. He retired in September 1994, aged 63, from both his Department and his College. He visited Uganda twice briefly in the same year and in 1995 he and Kate spent nearly five months there, teaching and doing research. Another such visit planned for 1996 was sadly cut short by his sudden illness. He had hoped to repeat this work in each of the next three or even four years, keen to do all he could to help the struggling University at Makerere and to write on the dragonflies of Uganda and also Kenya. He had a sense of urgency to conserve forest species threatened by habitat destruction and by water pollution, and to educate young Ugandans about their own 270 or more species.

In his earlier work Peter studied the physiology of a wide range of organisms – Orthoptera, Hemiptera, Coleoptera, Diptera and Opiliones – but from about 1981 onwards virtually all his work was on Odonata. Much of his early work followed from his PhD studies on respiration, including work on neural control of spiracle movement in Odonata; increasingly he widened his field to cover locomotion and hence behaviour. Peter became interested in almost every aspect of the biology of

dragonflies, but perhaps particularly in copulatory mechanisms, oviposition, territorial strategies and courtship. His wide experience in Europe and Africa enabled him to make valuable comparisons and to provide authoritative reviews of types of behaviour.

Peter's work was characterised by the way he combined a wide range of skills from neurobiology, electron microscopy and micro-dissection to methodical field observations and experiments. His papers are models of precision and clarity.

He scrupulously avoided dogmatic conclusions. By listing alternative hypotheses to account for what he had discovered he actively stimulated further research.

The depth of his knowledge of dragonflies and other animals meant that he was in great demand for writing chapters in leading textbooks and symposium volumes. His book "Dragonflies", published in 1987 in the Naturalists' Handbook series of the Cambridge University Press was a model of its kind. A revised and much enlarged second edition of this excellent little book was published in 1995. It gives great pleasure to his family and friends that he lived to see the second edition in print.

As one would gather from his writings Peter was a lucid and inspiring lecturer, and he could be very amusing. He is remembered with great respect and affection by his numerous undergraduate students, research students and research associates. He generously gave much of his time in support of S.I.O. of which he was a Council Member, and the British Dragonfly Society of which he was Vice President for six years. He became increasingly concerned with the conservation of dragonflies and was a much valued member of the Dragonfly Conservation Group of the British Dragonfly Society. By quiet diplomacy and the strength of his character he was often able to solve difficult organisational problems.

Peter was particularly happy when arousing enthusiasm in children to share his love of dragonflies. He would have been delighted to know that the Peter Miller Memorial Fund, organised by Kate, his wife and collaborator in the field, will fund the establishment of wildlife ponds in school playgrounds throughout Britain.

Peter and Kate were hosts to odonatologists from all over the world at their delightful home in Oxford. Visitors were not surprised to find a most originally de-



Fig. 2. Dragonfly collecting in the Budongo Forest, Uganda; September 1992 (see 1993f).



Fig. 3. With his son Fred, in Bradford; September 1994.

The happiness of the Miller family was infectious. Peter was a most generous person, who combined strength of character with gentle kindness, energy and enthusiasm. He will be remembered by his many friends as an outstanding odonatologist and an outstanding man.

signed garden centred round ponds, but I suspect many were surprised to discover that Peter was a great collector of books, especially those on sculpture, Gothic and Romanesque architecture and on early travellers in Africa and Arabia. Peter, like his brother Warden, got great enjoyment out of words; he enjoyed theatre and also music. Peter and Kate's family consists of Fred and Clare, with her husband Moses and their two children Ndomupe and Chiwoniso.

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\* Dr Peter Miller also published 47 papers and parts of books on other entomological subjects.

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#### OBITUARIES DEDICATED TO THE MEMORY OF Dr P.L. MILLER

(up to September 1, 1997)

- *INDEPENDENT*, issue of 6 May 1996, P. Corbet [with portrait].
- *KIMMINSIA* (1996) 7(1): 1-2, by N. Moore
- *LINDENIA* (1996) 26/27: 116, by C. Utzeri.
- *NAVASIA* (1996) 5: 3, by A. Cordero.
- *NEWSL. BRIT. DRAGONFLY SOC.* (1996) 30: 2, by J. Silsby.
- *PHYSIOL. ENT.* (1996) 21(3): 165-166, by S.J. Simpson [with portrait].
- *QUEEN'S COLL. REC., OXFORD* (1996) 7(2): 14-17, by D. Constantine [with portrait].
- *SELYSIA* (1996) 24(1): 1-2, by P.S. Corbet.
- *SIOJA* 1996 (1): 4, by K. Inoue.