Extremophiles (2002) 6:265–266
Digital Object Identifier (DOI) 10.1007/s00792-002-0280-9

IN MEMORIAM

Nick J Russell

David Wynn-Williams, 1947–2002

Published online: July 13, 2002

It is with deep sadness that we report the sudden death on 24 March 2002 of David Wynn-Williams, a member of the Editorial Board of *Extremophiles*, who was killed in a road accident whilst running in the Cambridgeshire countryside. His cruel and untimely death at the age of 55, when he was at the height of his scientific productivity, is a great loss to extremophile biology in general, and Antarctic microbiology and the newly-emerging discipline of astrobiology in particular.

David was an imaginative and totally dedicated polar microbiologist who truly worked at the extremes of life. His enthusiasm for Antarctic research was highly infectious and no-one who met him failed to be captured and captivated by his loquacious advocacy of the reasons why cold-adapted microorganisms held the key to how life on our planet began and evolved, and how these ideas might be used to design experiments to test for evidence of previous extraterrestrial life on Mars. These were views that he had developed during 27 years of working for the British Antarctic Survey. His initial studies with BAS were concerned with soil microbial ecology, and remarkably he spent more than 2 years, including back-to-back overwinterings, in 1974–1976 on Signy Island, where he performed the first quantitative studies of Antarctic microbial communities. That early experience was followed by ten summer expeditions to Antarctica, which included collaborations with the Antarctic research programs of New Zealand, the USA and Italy. Typical of his generosity and openness, he also exchanged information and materials with scientists from almost every country involved in research in the polar regions. He worked in some of the harshest terrain in Antarctica, including the Dry Valleys, and developed an interest in the adaptive mechanisms of microorganisms living under dry, cold and UV-irradiated conditions. He was particularly innovative in extending laboratory techniques to the field, especially those using epifluorescence microscopy, image analysis and more recently (in collaboration with Bradford University) the application of FT-Raman spectroscopy to investigate UV-protective pigments in situ.

It was whilst carrying out these wide-ranging studies of microbial adaptation to extreme conditions that David developed his theories about microbial evolution. He believed that the ability to photosynthesize was acquired first by marine sedimentary bacteria that subsequently colonized terrestrial environments. This conclusion owed much to his abiding interest in astronomy from early boyhood, which influenced his thinking about microbial survival on Earth. He was a driving force in setting up the UK Astrobiology Group and, at the time of his death, was establishing the new *International Journal of Astrobiology*. The importance of this dimension to his work at BAS was acknowledged in 2000 by his appointment as Leader of the Antarctic Astrobiology Project and Section Head, Origins of Life (he had previously been Head of the Terrestrial Microbiology Section since 1993). David built up an impressive network of links through the European Space Agency, and the NASA Ames and NASA Johnson Research Centers, and was actively involved in collecting materials and planning experiments for the ESA Mars Express Mission.

David's qualities were recognized throughout the community of Antarctic scientists, not just the microbiologists, because he sought to engage all disciplines in his ideas and to share their thoughts: he loved nothing better than stimulating conversations with colleagues. His scientific publications attest to his reputation and include research papers on most microbial classes, ranging from studies of the ecology of peat to the endolithic communities in rocks, and from spectroscopic studies in situ of UV protective pigments to the effects of climate change. He was awarded the Polar Medal in 1980, and was a Fellow of The Royal Astronomical Society, The Royal Geographical Society, and The British Interplanetary Society. Besides his work for *Extremophiles*, he was a member of the Editorial Board of *Polar Biology*, and a committee member of the Environmental Microbiology Group of the Society for General Microbiology.

David was a keen advocate of the dissemination of information about all aspects of the Antarctic to as wide a public

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audience as possible. For nearly 20 years he was variously Secretary, Membership Secretary, and Newsletter Editor of the BAS Club (for past and present members of BAS), and was engaged in writing a history of Signy Island. He also founded and ran a lunchtime Science Club at the local secondary school attended by his daughters, to which he attracted a remarkable series of eminent speakers.

David will be warmly remembered by his friends and professional colleagues for his deep commitment to science and his generous humanity; his effervescent enthusiasm might occasionally have bordered on the obsessive, but his passionate commitment to life at the extreme was inspirational and unforgettable.