Introduction to a special Festschrift issue celebrating the microbiology of *Cupriavidus metallidurans* strain CH34

Simon Silver · Max Mergeay

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Although this series of ten reports focuses on the microbiology of a single bacterium namely the beta-proteobacterium *Cupriavidus metallidurans* CH34, this volume is of general interest for several reasons. Firstly, this unusual multiple toxic metal ion-resistant bacterium has been a model for how microbes handle such toxic metal (loids) from the time of its first isolation (Mergeay et al. 1978, 1985). Moreover, it continues to be a useful model, as seen in this series of reports as well as in any search of the literature, used for an expanding range of interests from metal response physiology (Nies et al. 1990, 1989; Nies 2000; Roux et al. 2001; Sendra et al. 2006) and basic molecular genetics (Lejeune et al. 1983), to genomics (the organism is unusual in having two chromosomes plus two large plasmids; Mergeay et al. 2003), microbial ecology (Vander Auwera, this series), to applications in environmental biotechnology (Diels, this series) and even in space research (Leys, this series).

As an introductory aside, but a necessary explanation here, strain CH34 is complicated in that it has had at least five official names, starting as a *Pseudomonas* strain (Mergeay et al. 1978), then *Alcaligenes*

eutrophus (Lejeune et al. 1983), then *Ralstonia eutropha*, then *Ralstonia* sp., then *Ralstonia metallidurans*, to *Wautersia metallidurans* and finally (we hope) *Cupriavidus metallidurans*, including two changes in a single year (Vandamme and Coenye 2004), as the taxonomy of related bacteria evolved. Interested readers (if one wants useful and comprehensive literature) are advised to also search by “CH34” and not only by genus and species names. The letters CH refer to Christian Houba, at that time (in 1976), a student from the Université of Liège, who first isolated metal-resistant bacteria in a region in Belgium well known for its metallurgical industry historical past as well as for metal-accumulating plants.

The current reports are from a small Festschrift Symposium on work with strain CH34 that was held at the SCK-CEN (the Belgian Nuclear Research Centre of Mol) in April 2008. The science reported, included herein and much more that did not result in manuscripts, was a wonderful endorsement of the importance of this fascinating microbe, the benefits of a research program continuing over decades, and the fellowship and collegiality of the small international group of CH34 workers. We hope this continues.

S. Silver
Department of Microbiology and Immunology, University
of Illinois, Chicago, IL 60612, USA
e-mail: simon@uic.edu

M. Mergeay (✉)
Unit Microbiology, SCK.CEN, Mol 2400, Belgium
e-mail: mmergeay@sckcen.be

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