Minutes

Russell H. Vreeland, *Secretary*
Antonio Ventosa, *Chairman*

International Committee on Systematics of Prokaryotes

Subcommittee on the taxonomy of the *Halomonadaceae*

Minutes of the open meeting, 8 September 2004, Ljubljana, Slovenia

Minute 1. Call to order. The subcommittee meeting was called to order at 18:35 on 8 September 2004 by the Chairman, Dr A. Ventosa. The meeting was held at the Biological Technology Institute of the University of Ljubljana, Slovenia.

Minute 2. Record of attendance. The members present were: Drs A. Ventosa (Chair), R. H. Vreeland (Secretary), C. D. Litchfield, M. R. Mormile and B. J. Tindall. Apologies were received from: D. R. Arahal, V. Bejar, A. Gambacorta, W. D. Grant, Y. H. Park and E. Quesada. Other non-member attendees were: G. Bulut, H. Coban, R. Elevi, M. Kamekura, R. Mancinelli, A. Oren, B. Peyton and J. Quillaguaman.

Minute 3. Approval of the agenda. The agenda for the meeting was approved unanimously.

Minute 4. Minutes of the previous meeting. Minutes of the previous meeting held in Paris on 31 July 2002 [*Int J Syst Evol Microbiol* 53 (2003), 921–922] were made available to all attendees.

Minute 5. Current membership. The current membership of the subcommittee was reviewed for all attendees. Current subcommittee members are: A. Ventosa (Seville, Spain) (Chair), R. H. Vreeland (West Chester, USA) (Secretary), D. R. Arahal (Valencia, Spain), A. Gambacorta (Pozzuoli, Italy), W. D. Grant (Leicester, UK), C. D. Litchfield (Fairfax, USA), M. R. Mormile (Rolla, USA), Y. H. Park (Taejon, Korea), E. Quesada (Granada, Spain) and B. J. Tindall (Braunschweig, Germany).

Minute 6. Discussion of validly published names of taxa within the family. The Secretary presented a list of correct names of genera and species based on the validly published names of members of the genera *Halomonas*, *Carnimonas*, *Chromohalobacter*, *Cobetia* and *Zymobacter*. The list included all names that were validly published since the last meeting of the subcommittee as well as all names associated with taxa that are under the purview of the subcommittee, including: *Halomonas alimentaria*, *H. aquamarina*, *H. campisalis*, *H. cupida*, *H. desiderata*,

H. elongata (type species), *H. eurihalina*, *H. halmophila*, *H. halodenitrificans*, *H. halodurans*, *H. halophila*, *H. magadiensis*, *H. marisflavi*, *H. maura*, *H. meridiana*, *H. pacifica*, *H. pantelleriensis*, *H. salina*, *H. subglaciescola*, *H. variabilis* and *H. venusta*.

The names associated with species of *Halomonas* validly published since the subcommittee's last meeting are: *Halomonas anticariensis*, *H. axialensis*, *H. boliviensis*, *H. halocynthiae*, *H. hydrothermalis*, *H. koreensis*, *H. muralis*, *H. neptunia*, *H. organivorans*, *H. sulfidaeris* and *H. ventosae*. One name associated with a species, '*Halomonas glaciei*', has been effectively published [Reddy *et al.*, *Extremophiles* 7 (2003), 55–61] but has not yet appeared in the Validation Lists.

Other taxa currently included in the family are the members of the genera *Chromohalobacter*, *Cobetia*, *Carnimonas* and *Zymobacter*. Currently validly published names of species within the genus *Chromohalobacter* are *Chromohalobacter canadensis*, *Chromohalobacter israelensis*, *Chromohalobacter marismortui* (type species) and *Chromohalobacter salexigens*. The valid publication of a further new name, *Chromohalobacter sarecensis*, was reported as in press in IJSEM at the time of the meeting. No changes or new names were recorded for the genera *Cobetia* (represented by *Cobetia marina*), *Carnimonas* (represented by *Carnimonas nigrificans*) and *Zymobacter* (represented by *Zymobacter palmae*).

The subcommittee also discussed the names associated with some species within the family. *H. hydrothermalis* was described as being unable to grow at temperatures above 40 °C and was isolated from a low-temperature fluid associated with a thermal vent region. Thus, while not violating the rules of nomenclature *sensu stricto*, this name might none the less be somewhat confusing, since it implies thermophily rather than the psychrotolerance stated by the authors. It was stated that the species was named based on the isolation area, an hydrothermal vent.

The subcommittee also discussed the status of the only species *incertae sedis* within the family, namely *Pseudomonas beijerinckii*. Dr Ventosa reported that this strain is under study and a manuscript proposing a new name within the genus *Chromohalobacter* will soon be submitted. The subcommittee also expressed its concern over reports that at

least one strain of *P. beijerinckii* and a possible *Halomonas* strain may have some pathogenic properties, especially since human pathogenicity has never been associated with members of these groups. The Secretary agreed to look into the matter and report at the next meeting. Additional discussion ensued over the current status of *Z. palmarum* as a member of this group. The present confusion stems from inclusion of the genus in the original description of the family, while the same description excluded the genus *Oceanospirillum*. This is of special concern since phylogenetic inferences have demonstrated that *Oceanospirillum* may have branched from the family after *Zymobacter*, leading to a situation in which a group more closely related to the family is excluded while a less-related genus is included. Dr Vreeland reported that, while neither genus is included in the family in the forthcoming volume of the 2nd edition of *Bergey's Manual of Systematic Bacteriology*, he has been unable to find any proposal formally removing it. Drs Vreeland and Tindall agreed to examine the literature in more detail and report at the next meeting. A final concern was raised regarding the inability to obtain strains of *Carnimonas nigrificans*. The type strain of this species is apparently considered as a patent strain by several culture collections; however, it has not been officially designated as such by all collections, leading to considerable confusion regarding its availability.

Minute 7. Discussion of minimal standards for the description of new taxa. Dr Litchfield reported that the ad hoc working group on minimal standards has developed a single comparative chart for all 45 recognized species and that they are currently verifying and cross-checking published data. Dr Oren informed the subcommittee that several manuscripts have recently included comparative data that have simply been copied from published manuscripts, even though test conditions were not identical. Furthermore, and of even greater concern to the subcommittee, is the number of new names being validly published without reference to the type species of the respective genera (especially *Halomonas*). The subcommittee felt this was especially worrisome given the number of species currently included and the fact that the genus *Halomonas* is clearly not a monophyletic group. The subcommittee members discussed reminding all potential authors, reviewers and editors that taxonomic studies of new isolates should be conducted under optimal conditions for the strains being examined. Type strains should be included in the experimental studies and all comparisons must include the type species of the genus, even if the new isolates in question do not belong to the same subgroup of the genus. The members also expressed

concern about a number of discrepancies in character states present in the taxonomic literature for this bacterial group. Subcommittee members also expressed concern that recent reviews have noted a need to include representatives of all species in all taxonomic studies. The subcommittee did not feel this was necessary, given the number of names associated with this taxon. As stated above, members did reiterate the need to include at least some fresh examinations in all taxonomic studies.

Minute 8. Responding to requests. Drs Ventosa and Vreeland reported a growing problem of subcommittee members simply not responding to requests for assistance from the Secretary and Chairman. Dr Vreeland noted that members need to inform the Secretary regarding their plans to attend meetings (or not) and their need to review the agenda, minutes, etc. Subcommittee members and attendees were reminded of the need to respond to the Secretary and Chairman in order to facilitate the normal work of the subcommittee.

Minute 9. Other business. Dr Tindall reminded all subcommittee members of the need to cooperate with culture collections regarding verifying the purity and validity of newly deposited isolates. Failure to perform this critical function leads to delays in making the strains available to the larger scientific community. At the minimum, members were urged to check purity, viability and at least a few key characters. Dr Tindall stated that the primary requirement was that depositors should simply assure themselves that the strain was the same one deposited. They need not repeat the entire taxonomic study. Dr Vreeland told subcommittee members that the project to provide ribotype patterns for all recognized members of *Halomonas* and *Chromohalobacter* is nearing completion. Drs Vreeland and Tindall agreed to share data and patterns and to provide these to the scientific community.

Minute 10. New members. Committee members and attendees were urged to consider names for new members or to volunteer for membership if they are interested in the taxonomic questions involving the *Halomonadaceae*. Any potential new members will be contacted by the Secretary and could be nominated at the next closed meeting.

Minute 11. Next meeting. The members agreed to hold both closed and open meetings at the next IUMS meeting in San Francisco, USA, in July 2005, and instructed the Chairman to reserve time and space for these meetings.

Minute 12. Adjournment. The meeting was adjourned at 19:40 on 8 September 2004.