Minutes

S. L. W. On, *Outgoing Secretary*
R. J. Owen, *Secretary-elect*

International Committee on Systematics of Prokaryotes

Subcommittee on the taxonomy of *Campylobacter* and related bacteria

Minutes of the meetings, 3 and 4 September 2007, Rotterdam, Holland

Closed meeting

Minute 1. Call to order. The Chairman, P. Vandamme, called the meeting to order at 17:45 on 3 September 2007 in the Penn Room of the World Trade Center in Rotterdam, Holland.

Minute 2. Record of attendance. The members present were P. Vandamme (Chairman), M. Kist, A. Lastovica, F. Mégraud, S. L. W. On (Secretary) and R. J. Owen. Apologies for absence were received from J. G. Fox and I. V. Wesley.

Minute 3. Agenda. The proposed agenda was approved.

Minute 4. Minutes of the previous meeting. The minutes of the meeting held in Aarhus, Denmark in 2003 were approved.

Minute 5. Matters arising from the minutes of the previous meeting

(i) ATCC type strain of *Helicobacter cinaedi*. The origin of ATCC 35683, since it was confirmed to be a *Helicobacter fennelliae* strain, remained unknown. As per the previous meeting, S. L. W. On agreed to contact the ATCC and ask them to check the origin of the strain.

(ii) Validation of 'Candidatus' spp. published outside the IJSEM. P. Vandamme had checked the procedure for the above. There is no requirement to validate taxa described as 'Candidatus' species, as this taxonomic designation represents a category not recognized by the International Code of Nomenclature of Bacteria. In any case, few researchers were using the 'Candidatus' designation to describe apparently novel taxa that resisted culture.

(iii) Consultation with subcommittee before valid publication of the names of new taxa. The potential implementation of this review process with IJSEM to avoid inappropriate species descriptions had been discussed again by P. Vandamme with Aharon Oren, Chair of ICSP. A letter would be required for consideration by the ICSP Judicial Commission and the implementation would take several years, assuming the proposal was accepted. It was

considered that a practical and more readily implemented measure could be to ensure all IJSEM editors were informed of the membership and whereabouts of the members of this subcommittee, our concerns and our willingness to assist in proposals of novel species belonging to *Campylobacter*, *Helicobacter*, *Arcobacter* and related organisms. P. Vandamme agreed to inform the IJSEM editors of this. It was also felt prudent to review the minimal standards for describing novel *Campylobacteraceae* and *Helicobacter* species that had been published previously [Ursing *et al.*, *Int J Syst Bacteriol* **44** (1994), 842–845; Dewhirst *et al.*, *Int J Syst Evol Microbiol* **50** (2000), 2231–2237]. Taxonomic advances including new molecular methods, a wider range of phylogenetic markers and whole-genome sequences made such a review timely, particularly in light of the recent proposal of the family *Helicobacteraceae* that included *Helicobacter*, *Wolinella* and the free-living *Sulfuricurvum*, *Sulfurimonas*, *Sulfurovum* and *Thiovulum*.

(iv) ICSP website. S. L. W. On volunteered to ensure that the subcommittee's webpage was updated to include relevant organisms, members and minutes.

Minute 6. Membership. Floyd Dewhirst, Adrian Lee and Trevor Trust had all retired from the subcommittee since the last meeting. The subcommittee thanked all of these past members for their contribution to its activities. Considerable debate was held on the recruitment of new members with a suitable background in the taxonomy of epsilonbacteria, and especially with a view to members with expertise in free-living taxa and/or use of recent molecular/genomic advances in systematics. It was agreed to compose a list of potential candidates for circulation and discussion within the subcommittee by mid-November 2007, prior to engaging in the formal ICSP process for the proposal of new members.

An election for new Executive officers was held. S. L. W. On was voted Chairman and R. J. Owen elected as Secretary. P. Vandamme was thanked for his contributions as Chairman of the Subcommittee since 1997.

The current members of the subcommittee are: J. G. Fox (USA), M. Kist (Germany), A. J. Lastovica (South Africa), F. Mégraud (France), S. L. W. On (Chairman-elect; New

Zealand), R. J. Owen (Secretary-elect; UK), P. Vandamme (Belgium) and I. V. Wesley (USA).

Minute 7. StrainInfo.net, a new taxonomic resource. P. Vandamme brought to the subcommittee's attention a new internet-based resource (www.straininfo.net) intended to provide extensive information for strains that are deposited in international culture collections. The site enables the rapid access to key data including key bibliographical references, equivalent strain numbers in different international culture collections, and links to publicly available sequences (including whole genomes), where available.

Minute 8. Taxonomic developments. Since the last subcommittee meeting, the names of the following taxa had been validly published:

Arcobacter halophilus (2005), *Caminibacter profundus* (2004), *Caminibacter mediatlanticus* (2005), *Campylobacter insulaenigræ* (2004), *Helicobacter anseris* (2006), *Helicobacter aurati* (2002), *Helicobacter brantæ* (2006), *Helicobacter cetorum* (2006), *Helicobacter cynogastricus* (2006), *Helicobacter equorum* (2007), *Helicobacter marmotæ* (2006), *Helicobacter mastomyrinus* (2006), *Helicobacter typhlonius* (2002), family *Helicobacteraceae* (2006), *Lebetimonas acidiphila* (2005), family *Nautiliaceae* (2004), *Nitratifactor salsuginis* (2005), *Nitratiruptor tergarcus* (2005), *Sulfuricurvum kujiense* (2004), *Sulfurimonas autotrophica* (2003), *Sulfurimonas denitrificans* (2006; formerly *Thiomicrospira denitrificans*), *Sulfurimonas paralvinellæ* (2006), *Sulfurospirillum cavolei* (2007), *Sulfurospirillum haloferum* (2003), *Sulfurospirillum multivorans* (2003), *Sulfurovum lithotrophicum* (2004), *Thioreductor micantisoli* (2005).

Minute 9. Agenda for the open subcommittee meeting. An agenda for the open meeting of the subcommittee, scheduled for 4 September 2007, was agreed.

Minute 10. Any other business. No items were proposed.

Minute 11. Date and time of next meeting. To be discussed and agreed in November 2007.

Minute 12. Adjournment. The meeting was adjourned at 18:45 on 3 September 2007.

Open meeting

Minute 13. Call to order. The Chairman-elect, S. L. W. On, called the meeting to order at 13:00 on 4 September 2007 at the World Trade Center in Rotterdam, Holland.

Minute 14. Record of attendance. The members present were S. L. W. On (Chairman-elect), R. J. Owen (Secretary-elect), A. J. Lastovica and F. Megraud. Approximately 21 delegates of the CHRO 2007 congress were also present. Apologies for absence were received from P. Vandamme.

Minute 15. Subcommittee functions. S. L. W. On outlined the functions of an ICSP subcommittee to the

delegates. These functions include encouraging and undertaking relevant research, making recommendations and giving advice on classification, identification and nomenclature of the taxa under study, and preparation of minimal standards to describe novel species.

Minute 16. Current items of interest. S. L. W. On brought the following items to the attention of the audience. (i) Changes in the subcommittee membership due to retirements, and a call to interested parties with relevant expertise for expressions of interest to join; (ii) validation of '*Candidatus*' species; (iii) www.straininfo.net, an informatics bioportal of taxonomic value; (iv) the general and unfortunately ongoing issue of inadequately described, purportedly novel species, some of which may represent poorly classified strains of extant species. The audience was informed of our options to counter this, including the favoured strategy of contacting relevant IJSEM editors to request all submissions be reviewed by at least one subcommittee member. The audience was also informed of our intent to review the validity of current minimal standards for descriptions of novel *Campylobacteraceae* and *Helicobacter* species, given the advances in comparative whole-genome analysis and other molecular methods.

An outline of changes to the epsilonbacteria since 2003 was also provided.

Minute 17. Questions from delegates. Dr W. Miller (USA) asked if the inclusion of *Arcobacter* in the family *Campylobacteraceae* should be revised, considering recent data on the genome sequence of *Arcobacter butzleri* (notably, diversity and frequency of genes involved with sulphur metabolism) suggest they have more in common with free-living taxa such as *Nitratiruptor*, *Sulfurovum* and *Sulfurimonas*. This was considered to be a good question and clearly the substantive increase of publicly available genome sequence information would be an important resource for taxonomy and systematics developments in the future. In this case, it was also noteworthy that several *Arcobacter* species (*A. nitrofigilis*, *A. halophilus* and '*Candidatus A. sulfidicus*') were free-living, as was the genus *Sulfurospirillum*, itself formally placed within the *Campylobacteraceae*. However, several species (including *A. butzleri*, *A. cryaerophilus*, *A. skirrowii* and *A. ciberius*) were clearly capable of colonizing (and sometimes causing disease in) animal hosts, and phylogenetic analysis based on the widely used 16S rRNA gene sequence consistently placed both *Arcobacter* and *Sulfurospirillum* relatively close to *Campylobacter* and to a lesser extent *Helicobacter*, compared with other free-living taxa such as *Sulfuricurvum*. At present, the subcommittee members were unaware of any proposal to redefine the composition of the *Campylobacteraceae* but, of course, taxonomy and systematics were constantly evolving disciplines.

Dr A. Lawson (UK) asked if anyone had done any further work on the taxonomic position of *Wolinella*, which should

possibly be included in *Helicobacter* depending on which gene phylogenies were constructed. The subcommittee members present were unaware of further studies on the taxonomic position of *Wolinella*, or any proposal to reclassify the organism.

Dr R. J. Owen (UK) raised the issue of endangered culture collections and asked Professor A. Lastovica (S. Africa) if

he had managed to locate a secure facility to accommodate his substantive and unique strain collection. Professor Lastovica replied that, at present, his collection remains at the University and no future plans to relocate or rehouse the strains had been made.

Minute 18. Adjournment. The meeting was adjourned at 13:28 on 4 September 2007.