Minutes

P. Schumann, *Chairman*
H.-J. Busse, *Member*
E. M. Tóth, *Member*
R. Pukall, *Secretary*

International Committee on Systematics of Prokaryotes

Subcommittee on the taxonomy of the suborder *Micrococccineae*

Minutes of the meeting, 7 August 2008, Istanbul, Turkey

Minute 1. Call to order. The Chairman, P. Schumann, called the closed meeting to order at 10:00 on 7 August 2008 at the Istanbul Convention and Exhibition Center, Harbiye 80230, Istanbul, Turkey.

Minute 2. Record of attendance. The members present were P. Schumann (Chairman), H.-J. Busse, P. Kämpfer, K. Suzuki and A. Yokota. Apologies for absence were received from L. I. Evtushenko, O. R. Gvozdyak, R. Pukall and E. Stackebrandt. E. M. Tóth was present as a substitute appointed by R. Pukall.

Minute 3. Agenda. The proposed agenda was approved.

Minute 4. Chairman's introductory remarks. The Chairman gave a short survey of the activities since the last meeting in San Francisco in 2005. The minutes of the subcommittee meeting of 2005 have been published [Schumann & Evtushenko, *Int J Syst Evol Microbiol* **56** (2006), 2721–2722]. The list of taxa covered by the subcommittee (<http://www.the-icsp.org/taxa/micrococccineaelist.htm>) was completed and updated on 10 April 2008 by P. Schumann and L. Evtushenko. A list of taxa which have been described since 2005 was distributed to the participants of the meeting. A draft of the minimal standards for description of new taxa of the suborder *Micrococccineae* had been updated and modified according to the decisions of the subcommittee meeting in 2005 by P. Schumann and circulated among the members of the subcommittee prior to the meeting in Istanbul. At the end of his introduction, the chairman thanked those members of the subcommittee who have contributed as editors or authors to the next edition of *Bergey's Manual of Systematic Bacteriology*. Moreover, he appreciated the high number of publications in the *International Journal of Systematic and Evolutionary Microbiology* demonstrating the activities of subcommittee members.

Minute 5. Election of officers. The Chairman nominated R. Pukall as Secretary and presented his written acceptance of candidacy. P. Schumann was elected Chairman and R. Pukall was elected Secretary *in absentia*. Both officers were elected unanimously. The Chairman thanked L. I. Evtushenko, who expressed her wish to retire from the position of the Secretary, for her valuable work.

Minute 6. Changes in membership. Notice of resignation had been received from E. Stackebrandt. All present members of the subcommittee were grateful for the work and contributions of E. Stackebrandt and expressed their regret at losing his valuable expertise in the future. Soon Dong Lee (Cheju National University, Republic of Korea), Wen-Jun Li (Yunnan Institute of Microbiology, Yunnan University, PR China) and Erika M. Tóth (Department of Microbiology, Eötvös Loránd University, Budapest, Hungary) were nominated by L. I. Evtushenko and P. Schumann (S. D. Lee), P. Kämpfer (W.-J. Li) and H.-J. Busse (E. M. Tóth) for election to join the subcommittee. S. D. Lee and W.-J. Li agreed to their candidacy by letters to the Chairman before and after the meeting, respectively. All candidates were elected to membership either at the meeting (Lee and Tóth) or thereafter by an electronic mail ballot (W.-J. Li). All new members were approved by the Secretary for Subcommittees of the International Committee on Systematics of Prokaryotes on 26 October 2008.

Minute 7. Minimal standards for the description of new taxa of the suborder *Micrococccineae*. The Chairman outlined some points of the draft that required the special attention of the subcommittee members. After an intense discussion, all members agreed that the 16S rRNA gene sequence similarity threshold for the necessity of DNA–DNA hybridization is hard to define within the suborder. It was decided to keep the threshold value of 16S rRNA gene sequence similarity that suggests the affiliation of strains to a separate genomic species at 97% with the exception of members of the genus *Microbacterium* where it has been shown that 16S rRNA gene sequence similarity of <98% may justify a separate species status. In these cases DNA–DNA hybridizations may not be necessary, provided that there is clear evidence that the strain(s) under study is (are) phenotypically clearly different from the most closely related species on the basis of at least five traits which must have been studied concurrently. Clear evidence may be provided by examination of several strains for which non-clonal relatedness is demonstrated. Species identity and non-clonal relatedness may be demonstrated by genomic fingerprinting (high degree of similarity but still differences present in the banding patterns). The construction of phylogenetic trees should be calculated

by more than one algorithm. It should be included in the minimal standards that cellular fatty acid profiles and other phenotypic data should be analysed in one and the same laboratory rather than making comparisons of new data with those available from the literature. The discussion was continued as to which characteristics should be considered as 'minimal requirements' and which 'additional data', e.g. sequences of housekeeping genes as well as polyamine and total protein profiles, should get the status of additional characteristics. The draft will be updated with respect to the decisions of the meeting and recent descriptions of new taxa and will be circulated among the authors to prepare the manuscript for submission.

Minute 8. The list of families and genera covered by the subcommittee and taxonomic structure of the suborder *Micrococcineae*. Discrepancies between the current release of the Taxonomic Outline of Bacteria and Archaea – Part 10 (TOBA release 7.7 March 6, 2007; <http://www.taxonomicoutline.org>) and the list of taxa covered by the ICSP Subcommittee on the Taxonomy of the Suborder *Micrococcineae* (<http://www.the-icsp.org>) in the affiliation of genera to families and the structure of the suborder *Micrococcineae* were proposed for discussion by the Chairman. The members of the subcommittee expressed their appreciation that the Taxonomic Outline had been published as an open-access source for microbiologists. The Taxonomic Outline needs to be updated but agrees in general with the structure of the suborder *Micrococcineae* as proposed by the subcommittee except of the following points:

1. It is not clear on what basis the family *Catenulisporaceae* Busti *et al.* 2006 was included in the suborder *Micrococcineae* and its affiliation to the suborder *Catenulisporineae* Cavaletti *et al.* 2006 was neglected by the Taxonomic Outline.

2. The family *Yaniellaceae* Li *et al.* 2008 (previous illegitimate name: *Yaniaceae* Li *et al.* 2005) was created to harbour the genus *Yaniella* Li *et al.* 2008 (previous illegitimate name: *Yania* Li *et al.* 2004). The members of the subcommittee agreed that it might be reasonable to

place the genus *Yaniella* into the family *Micrococcaceae* as proposed by the Taxonomic Outline. However, its affiliation to the family *Yaniellaceae* should not be ignored as long as the genus *Yaniella* has not been formally reclassified.

3. The members of the subcommittee do not consider the genus *Tropheryma* La Scola *et al.* 2001 as a member of the family *Cellulomonadaceae* because of insufficient arguments for this classification and would prefer to list this genus under genera *incertae sedis*.

4. The idea of the Taxonomic Outline to establish a new family '*Beutenbergiaceae*' for the genera *Beutenbergia* and *Salana* is supported by the members of the subcommittee. However, the inclusion of the genus *Georgenia* is not suggested as it is much closer to the genus *Bogoriella* (family *Bogoriellaceae* Schumann & Stackebrandt 2000) than to the members of the new family '*Beutenbergiaceae*'. Therefore the genus *Georgenia* should be affiliated to the family *Bogoriellaceae* after respective emendation of this family.

This position of the members of the subcommittee was forwarded to G. M. Garrity and B. J. Tindall as authors of Taxonomic Outline of Bacteria and Archaea – Part 10 on 21 November 2008.

Minute 9. Current membership. The present membership of the subcommittee is as follows: P. Schumann, Chairman (Germany), R. Pukall, Secretary (Germany), H.-J. Busse (Austria), L. I. Evtushenko (Russia), O. R. Gvozdyak (USA), P. Kämpfer (Germany), S. D. Lee (Republic of Korea), W.-J. Li (China), K. Suzuki (Japan), E. M. Tóth (Hungary) and A. Yokota (Japan).

Minute 10. Next meeting. The next meeting will be held on September 6–10, 2011, in Sapporo, Japan, at the next congress of the International Union of Microbiological Societies.

Minute 11. Adjournment. The meeting was adjourned at 12:05 on 7 August 2008.