

Minutes

International Committee on Systematics of Prokaryotes

Subcommittee on the taxonomy of *Bifidobacterium*, *Lactobacillus* and related organisms

Minutes of the meetings, 4 September 2012, Istanbul, Turkey

Günter Klein, *Secretary*

Session 1. Open meeting

Minute 1. Call to order. The open meeting was called to order as part of the Food Micro 2012 symposium at 10:30 on 4 September 2012, by the Chairman, F. Dellaglio.

Minute 2. Record of attendance. The members present were F. Dellaglio (Chairman), A. Endo, G. Felis, C. Franz, W.-H. Holzapfel, G. Klein (Secretary) and P. Mattarelli. Apologies for absence were received from B. Biavati, J. Björkroth, C. Bonaparte, L. M. T. Dicks (Deputy Chairman), G. Reuter and B. Pot. The guest present was K. Watanabe.

Minute 3. Call for research reports. Research reports on topics related to the taxonomy of *Lactobacillus* and related organisms and bifidobacteria were presented by Koichi Watanabe. The presentations were as follows: “Rapid identification of the *Lactobacillus casei* group using Matrix-Assisted Laser Desorption/Ionization Time-Of-Flight Mass Spectrometry” and “Diversity of *Lactobacillus* in healthy human faeces and 16S rRNA gene-based detection of two novel *Lactobacillus* species”. A brief discussion followed each presentation.

Minute 4. Adjournment. The chairman thanked the presenter for his contributions. The open meeting was adjourned at 11:00 on 4 September 2012.

Session 2. Closed meeting

Minute 5. Call to order. The Chairman, F. Dellaglio, called the closed meeting to order at 11:00 on 4 September 2012.

Minute 6. Record of attendance. The members present were F. Dellaglio (Chairman), A. Endo, G. Felis, C. Franz, W.-H. Holzapfel, G. Klein (Secretary) and P. Mattarelli. Apologies for absence were received from B. Biavati, J. Björkroth, C. Bonaparte, L. M. T. Dicks (Deputy Chairman), G. Reuter and B. Pot. The guest present was K. Watanabe.

Minute 7. Approval of the agenda. The proposed agenda was approved.

Minute 8. Minutes of the previous meetings. The minutes of the meetings of the subcommittee in Egmond aan Zee, The Netherlands, on 31 August 2011, were approved.

Minute 9. Membership. K. Watanabe was present as a candidate for membership. K. Watanabe was proposed as a new member by F. Dellaglio and was seconded by G. Klein. The subcommittee accepted the candidate as a new member. C. Hertel stepped back by email from his previous application for membership as he is now affiliated to a field of work not closely related to taxonomy.

Minute 10. Communication from the Chairman. F. Dellaglio expressed his intention to resign from the position of Chairman after the next meeting because of his long term of office. Consequently the same applies to the Secretary, G. Klein. Therefore at the next meeting the elections for a new Chairman and a new Secretary have to take place and proposals for these positions should be communicated to the Chairman until the invitation to the next meeting.

Minute 11. Scope of the subcommittee. The status quo of genera within the purview of the subcommittee is as follows: *Bifidobacterium*, *Lactobacillus*, *Carnobacterium*, *Leuconostoc*, *Fructobacillus*, *Pediococcus*, *Tetragenococcus*, *Isobaculum*, *Lactosphaera*, *Desemzia*, *Weissella*, *Oenococcus*, *Sharpea*, *Vagococcus*, *Catelicoccus*, *Gardnerella*, *Paralactobacillus*, *Alloscardovia*, *Metascardovia*, *Scardovia*, *Aeriscardovia* and *Parascardovia*.

Minute 12. Call for old business. Regarding problems with the type strains within the *Bifidobacterium indicum*/*B. coryneforme*/*B. asteroides*-group, B. Biavati collected the type strains from different culture collections and compared them by DNA-fingerprinting (ERIC- and BOX-PCR). The results showed that for *B. coryneforme*, *B. indicum* and *B. asteroides*, all type strains tested from different collections (ATCC, DSMZ and LMG) were identical to the original type strains maintained in BUSCOB (Bologna University Scardovi Collection of Bifidobacteria) collection.

The status of ‘*Bifidobacterium crudilactis*’ will be checked by B. Pot, as this species name is effectively but not validly published, as it has not been published in the Validation List of *Int J Syst Evol Microbiol* [Klein, *Int J Syst Evol Microbiol* **59** (2009), 3181–3183].

Minute 13. Minimal Standards. On the basis of the draft of the minimal standards, entitled ‘Recommended minimal

standards for new species of *Bifidobacterium*, *Lactobacillus* and related genera', drafts for the other families have been prepared by the 'specialist' members. However, subcommittee members felt one standard for all families was more appropriate, and the standard should include the following sub-chapters: Introduction with general requirements for all families together; and a short chapter for each family with specific requirements. The draft will be prepared by G. Felis, C. Franz and P. Mattarelli before the end of 2012.

Minute 14. Matters arising from the Judicial Commission and ICSP. Concerning pending questions for an opinion regarding the status of the species *Lactobacillus rogosae* [minute 17 of the minutes of the meeting of the Judicial Commission from 2008, Istanbul, Turkey, *Int J Syst Evol Microbiol* **61** (2011) 2775–2780; minute 16 of the meeting of the ICSP from 2008, Istanbul, Turkey, *Int J Syst Evol Microbiol* **61** (2011) 2781–2789], G. Felis will check the availability of the original type strains or other strains of *Lactobacillus rogosae*. The proposal by Felis & Dellaglio [*Int J Syst Evol Microbiol* **57** (2007) 2185–2187] to establish the taxonomic unit of a *species proponenda* for species descriptions based on a single strain was not adopted by the Judicial Commission and the ICSP, as this is a taxonomic issue and not a nomenclatural one, and is therefore out of scope [minutes 12 and 24 of the meeting of the ICSP from 2008, Istanbul, Turkey; *Int J Syst Evol Microbiol* **61** (2011) 2781–2789].

Minute 15. Call for new business. Inclusion of new genera in the scope of the subcommittee is sometimes difficult, as many new genera are described. A suggestion from the members was to include families rather than genera. The Secretary will contact the Secretary for Subcommittees to explore this possibility.

For the proposal that descriptions of novel species require the investigation of a minimum number of genes and minimal length instead of recommending specific genes, the members concluded that at least two genes other than 16S rRNA should be included in the study. DNA–DNA hybridisation should be performed with at least two strains from the nearest neighbours identified by 16S rRNA analyses. Short genes (200 bp) are suitable for identification purposes, whereas longer genes (400–500 bp) are better suited for phylogenetic studies.

The establishment of a website for the subcommittee will be done in cooperation with the already existing website of ICSP for subcommittees. G. Klein together with G. Felis will explore these possibilities.

Minute 16. Review of novel species and subspecies. The reporting period is from January 2012 to February 2013. In addition, all 'Papers in Press' have been considered, which were published in print up to February 2013. These taxonomic units have therefore been included in these minutes. The following novel species and subspecies were acknowledged by the subcommittee (as from January 2012

to February 2013): *Bifidobacterium biavatii* [Validation list no. 145, *Int J Syst Evol Microbiol* **62** (2012) 1017–1019; Endo *et al.*, *Syst Appl Microbiol* **35** (2012) 92–97], *Bifidobacterium callitrichos* [Validation list no. 145, *Int J Syst Evol Microbiol* **62** (2012) 1017–1019; Endo *et al.*, *Syst Appl Microbiol* **35** (2012) 92–97], *Bifidobacterium reuteri* [Validation list no. 145, *Int J Syst Evol Microbiol* **62** (2012) 1017–1019; Endo *et al.*, *Syst Appl Microbiol* **35** (2012) 92–97], *Bifidobacterium saguini* [Validation list no. 145, *Int J Syst Evol Microbiol* **62** (2012) 1017–1019; Endo *et al.*, *Syst Appl Microbiol* **35** (2012) 92–97], *Bifidobacterium stellenboschense* [Validation list no. 145, *Int J Syst Evol Microbiol* **62** (2012) 1017–1019; Endo *et al.*, *Syst Appl Microbiol* **35** (2012) 92–97], *Lactobacillus xiangfangensis* [Gu *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 860–863], *Lactobacillus saniviri* [Oki *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 601–607], *Lactobacillus senioris* [Oki *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 601–607], *Lactobacillus futsaii* [Chao *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 489–494], *Lactobacillus gigeriorum* [Cousin *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 330–334], *Lactobacillus nasuensis* [Cai *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 1140–1144], *Lactobacillus brantae* [Volokhov *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 2068–2076], *Lactobacillus pasteurii* [Cousin *et al.*, *Int J Syst Evol Microbiol* **63** (2013) 53–59], *Lactobacillus hominis* [Cousin *et al.*, *Int J Syst Evol Microbiol* **63** (2013) 53–59], *Lactobacillus delbrueckii* subsp. *sunkii* [Kudo *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 2643–2649], *Leuconostoc miyukkimchii* [Lee *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 1098–1103], *Leuconostoc mesenteroides* subsp. *suionicum* [Gu *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 1548–1551], *Tetragenococcus osmophilus* [Justé *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 129–137], *Tetragenococcus halophilus* subsp. *halophilus* [Justé *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 129–137], *Tetragenococcus halophilus* subsp. *flandriensis* [Justé *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 129–137]. The description of *Lactobacillus kunkeei* has been emended [Endo *et al.*, *Int J Syst Evol Microbiol* **62** (2012) 500–504], *Lactobacillus kimchii* and *Lactobacillus bobalius* have been reclassified as *Lactobacillus paralimentarius* [Pang *et al.*, *Int J Syst Evol Microbiol* **62** (2012), 2383–2387].

Minute 17. Review of new orders, families and genera. No new orders or families have been described in the reporting period and no genera descriptions have been emended.

Minute 18. Present membership. The following individuals are members of the Subcommittee on *Bifidobacterium*, *Lactobacillus* and related organisms: Bruno Biavati (Deputy Chairman), Bologna, Italy; Johanna Björkroth, Helsinki, Finland; Christine Bonaparte, Hannover, Germany; Franco Dellaglio (Chairman), Verona, Italy; Leon M. T. Dicks (Deputy Chairman), Stellenbosch, South Africa; Akihido Endo, Turku, Finland; Giovanna Felis, Verona, Italy; Charles M. A. P. Franz, Karlsruhe, Germany; Wilhelm H. Holzapfel, Karlsruhe, Germany; Günter Klein, (Secretary), Hannover, Germany; Paola Mattarelli, Bologna, Italy; Bruno Pot, Gent,

Belgium; Gerhard Reuter, Berlin, Germany; Marc Vancanneyt, Gent, Belgium; and Koichi Watanabe, Tokio, Japan.

Minute 19. Date and place of the next meeting. The next meeting of the subcommittee will be either during Food Micro 2014 in Nantes, France, or during the IUMS symposium 2014, Montreal, Canada, or during LAB 2014

in The Netherlands. The subcommittee members expressed their preference for the Food Micro symposium and scheduled the subcommittee meeting for the first day of this symposium.

Minute 20. Adjournment. The closed meeting was adjourned at 12:30 on 04 September 2012.