Taxonomic Note

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Proposal of *Fron dihabitans* gen. nov. to replace the illegitimate genus name *Fron dicola* Zhang *et al.* 2007

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The prokaryotic generic name *Fron dicola* Zhang *et al.* 2007 is illegitimate because it is a later homonym of a fungal genus name *Fron dicola* Hyde, 1992 (Fungi, Ascomycota, Sordariomycetes, Xylariomycetidae, Xylariales, Hyponectriaceae) [Principle 2 and Rule 51b(4) of the *Bacteriological Code* (1990 Revision)]. It is also questionable whether the genus name can be validly published. Therefore, a new genus name, *Fron dihabitans* gen. nov., is proposed for this taxon. As a result, a new name is proposed for the type species, *Fron dihabitans australicus* sp. nov., to replace the illegitimate combination *Fron dicola australicus* Zhang *et al.* 2007. The type strain of *Fron dihabitans australicus* is E1HC-02^T (=JCM 13598^T =DSM 17894^T).

On 14 August 1999, the Judicial Commission of the International Committee on Systematic Bacteriology (ICSB) (De Vos & Trüper, 2000) recommended that the following change to Principle 2 of the Bacteriological Code proposed by Tindall (1999) be accepted.

‘The nomenclature of prokaryotes is not independent of botanical and zoological nomenclature. When naming new taxa in the rank of genus or higher, due consideration is to be given to avoiding names which are regulated by the Zoological Code and the International Code of Botanical Nomenclature.’

Further, the addition of the following Note to Principle 2 was proposed:

‘Note. This principle takes effect with publication of acceptance of this change by the ICSB and is not retroactive’.

Later, the ICSB (now the International Committee on Systematics of Prokaryotes; ICSP) voted unanimously in favour of the proposal (Labeda, 2000).

The minutes of the meetings of both the Judicial Commission and the ICSB were published in the November 2000 issue of the *International Journal of Systematic and Evolutionary Microbiology* and, for all

practical purposes, the new Principle 2 applies from 1 January 2001.

Zhang *et al.* (2007) published the description of the new taxon *Fron dicola australicus* gen. nov., sp. nov. as a member of the family *Microbacteriaceae* in the phylum *Actinobacteria*. This aerobic bacterium was isolated from decaying leaf litter of a slash pine forest in south-east Queensland, Australia. It should be noted, however, that this taxon differs significantly from other members of the family *Microbacteriaceae* described to date, in that the fatty acids are predominately straight-chain saturated and unsaturated derivatives, rather than iso- and anteiso-branched chain derivatives, as in the case of all other members of this family listed by Zhang *et al.* (2007) and in members of new genera placed in this family, and not included in that publication, such as the genera *Microcella* and *Yonghaparkia* (Yoon *et al.*, 2007; Tiago *et al.*, 2005).

It has since been discovered that the name *Fron dicola* was illegitimate because of the precedence of the fungal genus name *Fron dicola* Hyde, 1992 (Fungi, Ascomycota, Sordariomycetes, Xylariomycetidae, Xylariales, Hyponectriaceae) [CABI Bioscience database of fungal names at <http://www.indexfungorum.org/Names/fundic.asp>].

According to Principle 6 of the Bacteriological Code (1990 Revision) (Lapage *et al.*, 1992), the correct name of a taxon is based upon valid publication, legitimacy and priority of publication. An illegitimate name cannot be a correct

The GenBank/EMBL/DDBJ accession number for the 16S rRNA gene sequence of strain E1HC-02^T is DQ525859, not DQ52589 as given by Zhang *et al.* (2007).

name, and must be replaced. The legitimacy of the species epithet is not affected by the illegitimacy of the generic name (Rule 32b and Rule 51a). Tindall (2008) has, however, indicated that it is questionable whether an illegitimate name can be validly published. This also applies to Rule 32b, where it is unclear whether a species epithet can only be validly published as part of a validly published combination, i.e. both the genus name and species epithet must be validly published at the same time. The wording of Rule 51a is also misleading (Tindall, 2008). This topic needs to be discussed further by the Judicial Commission and a ruling made that would clarify the status of such names. Therefore, in the absence of such a ruling, reference to the authors of the species epithet has been retained in the authorship of the resulting new combination (Rule 54), as previously recommended by Tindall & Euzéby (2006). Reference to Zhang *et al.* (2007) as authors of the original (effectively published) description may be retained in any case.

The illegitimate genus name *Frondicola* was chosen as it means inhabitant of leaves, which describes the habitat from which the type strain was isolated. The replacement genus name, *Fron dihabitans*, also describes the habitat from which the type strain was isolated. There is no evidence to indicate that the genus name *Fron dihabitans* has been used previously.

Description of *Fron dihabitans* gen. nov.

Fron dihabitans (Fron.di.ha'bi.tans. L. n. *frons*, *frondis* a leaf, foliage, L. part. adj. *habitans* inhabiting; N.L. part. adj. used as a masc. n. *Fron dihabitans* inhabitant of leaves, leaf dweller).

Previous illegitimate name: *Fron dicola* Zhang *et al.* 2007.

Cells are aerobic, non-endospore-forming, irregular-shaped rods which stain Gram-positive. No mycelium is produced. A range of carbohydrates, organic compounds and amino acids are metabolized. 16S rRNA gene sequence analysis indicates that the genus is a member of the family *Microbacteriaceae*. The cell-wall peptidoglycan type is B2 β , the characteristic cellular fatty acids are 16:0, 2-OH 14:0, 3-OH iso-14:0, 17:1 ω 9c and 18:1 ω 7c and menaquinones MK-7 and MK-8 are present. The polar lipid pattern comprises disphosphatidylglycerol, phosphatidylglycerol, at least six glycolipids, of which three are probably diglycosyl diglycerides (the nature of sugars and their linkages have not been identified), and four unidentified phospholipids. The type species and the sole member of the genus is *Fron dihabitans australicus*.

Description of *Fron dihabitans australicus* (Zhang *et al.* 2007) comb. nov.

Fron dihabitans australicus (aus.tra'li.cus. N.L. masc. adj. *australicus* pertaining to Australia).

Illegitimate homotypic synonym: *Fron dicola australicus* Zhang *et al.* 2007.

The description of the species is as given for *Fron dicola australicus* by Zhang *et al.* (2007). The species also has the features listed under the genus description, which differ in detail from those published previously by Zhang *et al.* (2007). The type strain is E1HC-02^T (=JCM 13598^T=DSM 17894^T). The GenBank accession number for the 16S rRNA gene sequence of strain E1HC-02^T is DQ525859 (not DQ52589 as given by Zhang *et al.*, 2007).

The introductory part of this text is based on an earlier publication of Tindall & Euzéby (2006).

References

- De Vos, P. & Trüper, H. G. (2000). Judicial Commission of the International Committee on Systematic Bacteriology. IXth International (IUMS) Congress of Bacteriology and Applied Microbiology. Minutes of the meetings, 14, 15 and 18 August 1999, Sydney, Australia. *Int J Syst Evol Microbiol* **50**, 2239–2244.
- Hyde, K. D. (1992). Fungi from decaying intertidal fronds of *Nypa fruticans*, including three new genera and four new species. *Bot J Linn Soc* **110**, 95–110.
- Labeda, D. P. (2000). International Committee on Systematic Bacteriology. IXth International (IUMS) Congress of Bacteriology and Applied Microbiology. Minutes of the meetings, 14 and 17 August 1999, Sydney, Australia. *Int J Syst Evol Microbiol* **50**, 2245–2247.
- Lapage, S. P., Sneath, P. H. A., Lessel, E. F., Skerman, V. B. D., Seeliger, H. P. R. & Clark, W. A. (editors) (1992). *International Code of Nomenclature of Bacteria (1990 Revision)*. Washington, DC: American Society for Microbiology.
- Tiago, I., Pires, C., Mendes, V., Morais, P. V., Da Costa, M. & Veríssimo, A. (2005). *Microcella putealis* gen. nov., sp. nov., a Gram-positive alkaliphilic bacterium isolated from a nonsaline alkaline groundwater. *Syst Appl Microbiol* **28**, 479–487.
- Tindall, B. J. (1999). Proposals to update and make changes to the Bacteriological Code. *Int J Syst Bacteriol* **49**, 1309–1312.
- Tindall, B. J. (2008). Are the concepts of legitimate and illegitimate names necessary under the current International Code of Nomenclature of Bacteria? A proposal to make changes to the Code. *Int J Syst Evol Microbiol* **58**, 1979–1986.
- Tindall, B. J. & Euzéby, J. P. (2006). Proposal of *Parvimonas* gen. nov. and *Quatrionococcus* gen. nov. as replacements for the illegitimate, prokaryotic, generic names *Micromonas* Murdoch and Shah 2000 and *Quadricoccus* Maszenan *et al.* 2002, respectively. *Int J Syst Evol Microbiol* **56**, 2711–2713.
- Yoon, J. H., Kang, S. J., Schumann, P. & Oh, T. K. (2006). *Yonghaparkia alkaliphila* gen. nov., sp. nov., a novel member of the family *Microbacteriaceae* isolated from an alkaline soil. *Int J Syst Evol Microbiol* **56**, 2415–2420.
- Zhang, L., Xu, Z. & Patel, B. K. C. (2007). *Fron dihabitans australicus* gen. nov., sp. nov., isolated from decaying leaf litter from a pine forest. *Int J Syst Evol Microbiol* **57**, 1177–1182.