Taxonomic Note

Proposal of Frondihabitans gen. nov. to replace the illegitimate genus name Frondicola Zhang et al. 2007

Anthony C. Greene,¹ Jean P. Euzéby,² Brian J. Tindall³ and Bharat K. C. Patel¹

¹Microbial Gene Research and Resources Facility, School of Biomolecular and Physical Sciences, Griffith University, Brisbane, QLD 4111, Australia
²Société de Bactériologie Systématique et Vétérinaire (SBSV) and École Nationale Vétérinaire de Toulouse (ENVT), BP 87614, 31076 Toulouse cedex 3, France
³DSMZ – German Collection of Microorganisms and Cell Cultures, Braunschweig, Germany

The prokaryotic generic name Frondicola Zhang et al. 2007 is illegitimate because it is a later homonym of a fungal genus name Frondicola 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, Frondihabitans gen. nov., is proposed for this taxon. As a result, a new name is proposed for the type species, Frondihabitans australicus sp. nov., to replace the illegitimate combination Frondicola australicus Zhang et al. 2007. The type strain of Frondihabitans 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 Frondicola 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 Frondicola was illegitimate because of the precedence of the fungal genus name Frondicola 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
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 & Ezéby (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, *Frondihabitans*, also describes the habitat from which the type strain was isolated. There is no evidence to indicate that the genus name *Frondihabitans* has been used previously.

**Description of Frondihabitans gen. nov.**

*Frondihabitans* (Fron.dih.abit.tans. L. n. frons, frondis a leaf, foliage, L. part. adj. habitans inhabiting; N.L. part. adj. used as a masc. n. *Frondihabitans* inhabitant of leaves, leaf dweller).

Previous illegitimate name: *Frondicola* 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 B2β, the characteristic cellular fatty acids are 16 : 0, 2-OH 14 : 0, 3-OH iso-14 : 0, 17 : 1o9c and 18 : 1o7c 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 *Frondihabitans australicus*.

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

*Frondihabitans australicus* (aus.trali.cus. N.L. masc. adj. australicus pertaining to Australia).


The description of the species is as given for *Frondicola 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-02T (=JCM 13598T =DSM 17894T). The GenBank accession number for the 16S rRNA gene sequence of strain E1HC-02T is DQ525859 (not DQ525859 as given by Zhang et al., 2007).

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

**References**


