Taxonomic Note

Correspondence

Michael T. Madigan
madigan@micro.siu.edu

Proposal of *Heliobacteriaceae* fam. nov.

Michael T. Madigan,¹ Jean P. Euzéby² and Marie Asao^{1†}

¹Department of Microbiology, Southern Illinois University, Carbondale IL 62901, USA

²Société de Bactériologie Systématique et Vétérinaire (SBSV) and École Nationale Vétérinaire de Toulouse (ENVT), BP 87614, F-31076 Toulouse cedex 3, France

The family name *Heliobacteriaceae* is not validly published. The purpose of this note is to provide a description of this family in accordance with the Rules of the *Bacteriological Code* (1990 Revision).

Heliobacteria are anoxygenic phototrophic bacteria that contain bacteriochlorophyll *g* (Gest & Favinger, 1983). The family name *Heliobacteriaceae* first appears in a paper published in 1987 by Beer-Romero & Gest (1987). In this paper, these authors provide a description of the genus *Heliobacillus* and a description of the species *Heliobacillus mobilis*. However, Beer-Romero & Gest (1987) do not propose a description of the family *Heliobacteriaceae* and thus this name can be considered as only an incidental mention [Rule 28b (3) of the *Bacteriological Code* (1990 Revision) (Lapage *et al.*, 1992)]. Later, the names *Heliobacillus* and *Heliobacillus mobilis* were validly published by citation on Validation List no. 65 (Beer-Romero & Gest, 1998a, 1998b), but the family name *Heliobacteriaceae* does not appear in this list.

In volume one of the second edition of *Bergey's Manual of Systematic Bacteriology*, Madigan (2001) cites the name *Heliobacteriaceae* as follows: '*Heliobacteriaceae*' Beer-Romero and Gest 1987, 113. In volume three of the second edition of this manual, Asao & Madigan (2009) cite this family name as *Heliobacteriaceae* Madigan 2001, 625. This last citation is incorrect because *Heliobacteriaceae* Madigan 2001 is not validly published.

It is not possible to cite the name *Heliobacteriaceae* Beer-Romero & Gest (1987) in a Validation List because the name was only an incidental mention. It is also impossible to cite the name *Heliobacteriaceae* Madigan 2001 in a Validation List for the following two reasons: (i) the authorship is given as Beer-Romero & Gest (1987); and (ii) the name is not clearly stated and indicated as such; that is, the abbreviation fam. nov. is omitted [see Rule 27 (2) (De Vos & Trüper, 2000)].

According to Rule 27 (2) (De Vos & Trüper, 2000), a reference to a previous effectively published description is in accordance with the Rules. So, in order to avoid confusion, we propose herein the valid publication of the

family name *Heliobacteriaceae* with a reference to the paper by Asao & Madigan (2009).

Description of *Heliobacteriaceae* fam. nov. Madigan and Asao

Heliobacteriaceae (He.li.o.bac.te.ri.a.ce'ae. N.L. neut. n. *Heliobacterium* type genus of the family; suff. -aceae ending to denote a family; N.L. fem. pl. n. *Heliobacteriaceae* the *Heliobacterium* family).

The description of the family is that given by Asao and Madigan 2009 (Asao & Madigan, 2009). The type genus is *Heliobacterium* Gest and Favinger 1985, 223 (Gest & Favinger, 1985). More information on the properties of the family *Heliobacteriaceae* can be found in the review paper by Asao & Madigan (2010).

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†Present address: Department of Microbiology, The Ohio State University, Columbus OH 43210, USA.

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