Photosynth Res
DOI 10.1007/s11120-007-9149-1

EDITORIAL

A Tale of Naming a Photosynthetic Bacterium

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Howard Gest and Jeffrey Favinger (of the Photosynthetic Bacteria Group, Biology Department, Indiana University, Bloomington, IN 47405, USA) have recently written a summary on the web (http://www.bio.indiana.edu/~gest/centenum.pdf) that deals with the survival of the original nomenclature of the photosynthetic bacterium *Rhodospirillum centenum*. This story should be of benefit to all those isolating and characterizing new photosynthetic microorganisms.

Rhodospirillum centenum was first isolated in the laboratory of Howard Gest from an enrichment culture inoculated with a sample collected at Thermopolis Hot Springs, Wyoming. In 1987, they had deposited the type strain (designated Favinger/Gest) in the American Type Culture Collection (ATCC no. 43720). Soon thereafter, Favinger et al. (1989) published a detailed description of its general and unique properties; they had named the organism *Rhodospirillum centenum* since it was discovered during the 100th anniversary of the first isolation of a pure culture of an anoxyphototroph, *Rhodospirillum rubrum.* Following this, Kawasaki et al. (1992) published a paper on their observations of a photosynthetic bacterium, which they named *Rhodocista centenaria.* Since this isolate was the same as that of Favinger et al. (1989), Gest and Favinger (1998, 2001) questioned the change of the name and provided arguments why the name *Rhodocista centenaria* should be rejected. Murray (1998) states ''*what lasts is determined by general acceptance*''. The original name *Rhodospirillum centenum* has passed this criterion: (1) *Web of Science* shows a score of 54 for *Rhodospirillum centenum*, and only four for *Rhodocista centenaria.* (2) A Google search on February 7, 2007, showed 14,100 hits for *Rhodospirillum centenum*, and only 675 for *Rhodocista centenaria*; on the other hand, a Yahoo search gives the numbers to be 464 and 135, respectively. (3) Madigan and Martinko (2006) use only *Rhodospirillum centenum*. However, it is of interest to read the detailed arguments made by Tindall (2001) in response to Gest and Favinger (2001). As a non-taxonimist, I can only say that all arguments are too complex for me, and that once the complete genome sequences of all photosynthetic bacteria are available, there will be a re-evaluation of all names anyhow, but until then let us use: *Rhodospirillum centenum* (alternate name: *Rhodocista centenaria*).

The Editors of Photosynthesis Research do not make endorsements in matters of organism nomenclature. Additional information about the proposed alternative name of Rsp. centenum (*Rhodocista centenaria*) can be found at <http:// www.bacterio.cict.fr/qr/rhodocista.html>.

Readers can make their own judgment about this and many other names of photosynthetic bacteria, especially of *Rhodopseudomonas viridis*; it was the crystal structure of its photosynthetic reaction center that led to the 1988 Nobel Prize in Chemistry to Hartmut Michel, Johannes Deisenhofer and Robert Huber (see e.g., Deisenhofer and Michel 1989); however, many are using its alternative name *Blastochloris viridis* (see Gest and Blankenship 2004; their table of names and alternate names of several photosynthetic bacteria are reproduced on p. 59 in Govindjee et al. 2005).

Personally, I would like to see the original names included as well in publications to make it easier for beginning scientists to connect the current research with those published in the past.

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Acknowledgment I thank Robert Blankenship for his suggestions during the preparation of this article.

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