

## Taxonomic note: transfer of *Amoebobacter purpureus* to the genus *Pfennigia* gen. nov., as *Pfennigia purpurea* comb. nov., on the basis of the illegitimate proposal to make *Amoebobacter purpureus* the type species of the genus *Amoebobacter*

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In a recent article dealing with the taxonomy of members of the genera *Thiocapsa* and *Amoebobacter*, Guyoneaud *et al.* (1998) have proposed that several species of the genus *Amoebobacter* should be transferred to the genus *Thiocapsa*. Among those species transferred to the genus *Thiocapsa* was the type species of the genus *Amoebobacter*, *Amoebobacter roseus*. In formally considering that *Amoebobacter roseus*, the type of the genus *Amoebobacter* (Winogradsky 1888<sup>AL</sup>), should be placed in the genus *Thiocapsa*, the authors have also sought to place the remaining species from the genus *Amoebobacter* in other genera. Apart from the transfer of *Amoebobacter roseus* to the genus *Thiocapsa*, as *Thiocapsa rosea*, and the proposal of a new genus *Thiolamprovum* (Guyoneaud *et al.*, 1998) to accommodate *Amoebobacter pedioformis*, the authors left *Amoebobacter purpureus* as the only species within the genus *Amoebobacter*. In view of the fact that the type species of this genus was placed in the genus *Thiocapsa* (Winogradsky 1888<sup>AL</sup>, emend. Guyoneaud *et al.* 1998), Guyoneaud *et al.* (1998) proposed that *Amoebobacter purpureus* be elevated to the status of type species for the genus *Amoebobacter* (Winogradsky 1888<sup>AL</sup>, emend. Guyoneaud *et al.* 1998). The Bacteriological Code (Lapage *et al.*, 1992) states quite explicitly that the type 'is that element of the taxon with which the name is permanently associated' (Rule 15). As a result the proposal to create a new type species for the genus *Amoebobacter* (Winogradsky 1888<sup>AL</sup>, emend. Guyoneaud *et al.* 1998) is 'contrary to the Rules' [Rule 23a (ii)]. A name which is contrary to the Rules is illegitimate. Principle 8 states that 'each order or taxon of a lower rank with a given circumscription and rank can bear only one correct name, i.e., the earliest that is in accordance with the

Rules of this Code', while Rule 23b states that 'for the purpose of priority only, legitimate names and epithets are taken into consideration'. The correct name of a taxon is based upon valid publication, legitimacy and priority of publication (Principle 6). Although the species *Amoebobacter purpureus* has priority within the genus *Amoebobacter* (Winogradsky 1888<sup>AL</sup>) in which the type species is *Amoebobacter roseus*, the proposal to make *Amoebobacter purpureus* the type species of the genus *Amoebobacter* (Winogradsky 1888<sup>AL</sup>, emend. Guyoneaud *et al.* 1998) is illegitimate, and as such has no claim to priority, nor can it be considered to be correct.

Considering that the authors present evidence that this organism warrants inclusion within a genus separate from *Thiocapsa rosea* (basonym: *Amoebobacter roseus*), they are not at liberty to change the type species of the genus *Amoebobacter* (Winogradsky 1888<sup>AL</sup>), nor is the publication of an emended description of the genus *Amoebobacter* (Winogradsky 1888<sup>AL</sup>, emend. Guyoneaud *et al.* 1998), in which a new type species is designated, consistent with the Rules of the Bacteriological Code. Irrespective of the taxonomic position of *Thiocapsa rosea* or *Amoebobacter roseus*, the species *Amoebobacter purpureus* should be placed in a different genus to *Amoebobacter* (Winogradsky 1888<sup>AL</sup>), *Thiocapsa* (Winogradsky 1888<sup>AL</sup>, emend. Guyoneaud *et al.* 1998) or *Thiocapsa* (Winogradsky 1888<sup>AL</sup>). In order to solve the confusion caused by this publication, it is proposed that *Amoebobacter purpureus* be transferred to a new genus, for which the name *Pfennigia* gen. nov. is proposed. The only species within this genus is the type species *Pfennigia purpurea* comb. nov.

**Description of *Pfennigia* gen. nov.**

*Pfennigia* (Pfen.nig'ia. M.L. ending *-ia*; M.L. fem. n. *Pfennigia* named after Norbert Pfennig, in recognition of his contribution to the biology and taxonomy of anoxygenic phototrophic bacteria).

Cells are Gram-negative, non-motile and oval to spherical,  $1.9\text{--}3.8 \times 2.0\text{--}4.5 \mu\text{m}$ . Large aggregates of cells (up to 40) may be formed. Growth may be photolithotrophic under anoxic conditions in the light, or chemoautotrophic under micro-oxic conditions in the dark. Electron donors used are sulphide, thiosulphate or elemental sulphur. During the oxidation of sulphide or thiosulphate to sulphate globules of elemental sulphur appear inside the cells. May not be capable of assimilatory sulphate reduction. Intracellular photosynthetic membranes are of the vesicular type. The major photosynthetic pigments are bacteriochlorophyll *a* and the carotenoid okenone. The G + C content of the DNA is 63.4–64.1 mol% (buoyant density). 16S rDNA sequence analysis indicates that this genus is a member of the *Thiocapsa*–*Thiolamproyum* phyletic group within the  $\gamma$ -subclass of the *Proteobacteria*. The type species of the genus *Pfennigia* is *Pfennigia purpurea* comb. nov.

**Description of *Pfennigia purpurea* comb. nov.  
(basonym: *Amoebobacter purpureus* Eichler and Pfennig 1988)**

*Pfennigia purpurea* (pur.pur'ea. L. fem. adj. *purpurea* purple or purple-red).

The description of the species is identical to that given by Eichler & Pfennig (1988). The type strain is DSM 4197<sup>T</sup> (= strain ThSchl2<sup>T</sup> = Schleinsee<sup>T</sup>).

**References**

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