Draft Genome Sequence of the Purple Photosynthetic Bacterium *Phaeospirillum molischianum* DSM120, a Particularly Versatile Bacterium

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Here we present the draft genome sequence of the versatile and adaptable purple photosynthetic bacterium *Phaeospirillum molischianum* DSM120. This study advances the understanding of the adaptability of this bacterium, as well as the differences between the *Phaeospirillum* and *Rhodospirillum* genera.

The alphaproteobacterium *Phaeospirillum molischianum*, previously named *Rhodospirillum molischianum* (3), is a photosynthetic bacterium which has been extensively studied for its photosynthetic apparatus (1, 2, 4, 6), in particular since it is relatively easy to cultivate and grows rapidly to high cell density. This easy cultivation and widespread occurrence suggest efficient adaptation to the environment, as is indeed evidenced by its capacity for chromatic adaptation. This led us to suspect an extensive collection of environmental sensors. Compared to *Rhodospirillum* molischianum, which contains structural gene clusters for two different types of nitrogenases, a Mo-Fe-dependent nitrogenase (Nif cluster) is also found in *Rhodocista centenaria* (5) and an alternative Fe-Fe nitrogenase (Anf cluster). Only form II of Rubisco (CbbM), one of the key enzymes in the Calvin cycle of CO₂ fixation, is present.

In conclusion, we present here the draft genome of *P. molischianum*, which reveals a very adaptable organism with a multi- tude of environmental sensors and a very plastic genome predisposed to rapid evolution and remodeling.

**Nucleotide sequence accession numbers.** This genome has been deposited in the DDBJ/EMBL/GenBank databases (accession no. CAHP01000001 to CAHP01000061). This first version contains 61 of the original 291 contigs. MaGe annotation data will be made publicly available through the MaGe PhaeoScope website (http://www.genoscope.cns.fr/agc/mage/phaeoscope).

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**REFERENCES**


7. Reference deleted.