

Species *Planktophila rara*

Etymology

[ra'ra] **L. fem. adj.** *rara*, rare, indicating its low abundance and distribution in the environment

Nomenclatural type

[Genome sc|0004091](#) ^{Is}

Description

Etymology. It is named 'rarus' from the Latin word meaning rare, indicating its low abundance and distribution in the environment.

Brief description. *Planktophila rarus* MRE-26 (ENA accession number GCA_965268205) was isolated from the epilimnion (0.5m depth) of Římov Reservoir, Czech Republic (date: 2021-04-06) and it is the only isolated representative of the species. It has a complete circular genome with a size of 1,468,350 bp, a GC content of 47.5%, and a coding density of 95.7%. It encodes one rRNA operon and 39 tRNA genes. It encodes for both actinorhodopsin and heliorhodopsin, as well as the capacity to *de novo* synthesize retinal. It encodes for both oxygenic and anoxygenic parts of the pentose phosphate pathway. It can synthesize most amino acids, being auxotrophic for asparagine. Recruitment analysis indicates a very restrictive distribution, specifically the epilimnetic waters of Římov Reservoir during spring. The closest cultivated species is *Planktophila aestivalis* MRE-130, having an average nucleotide identity of 86.5%. The Current GTDB classification (r220) is

d__Bacteria;p__Actinomycetota;c__Actinomycetia;o__Nanopelagicales;f__Nanopelagicaceae;g__Planktophila;s__.

Classification

Bacteria » *Actinomycetota* » *Actinomycetes* » *Nanopelagicales* » *Nanopelagicaceae* » *Planktophila* » *Planktophila rara*

References

Effective publication: Chiriatic et al., 2025 [1]

Registry URL

<https://seqco.de/i:51475>

References

1. Chiriatic et al. (2025). Ecological success in freshwater lakes: insights from novel cultivated lineages of the abundant Nanopelagicales order. *Microbiome*. DOI: [10.1186/s40168-025-02272-x](https://doi.org/10.1186/s40168-025-02272-x)