

Species *Planktophila thermolimnae*

Etymology

[ther.mo.lim'na.e] **Gr. masc. adj.** *thermos*, hot; **Gr. fem. n.** *limne*, lake; **N.L. fem. adj.** *thermolimnae*, of a hot lake or standing body of water

Nomenclatural type

[Genome sci|0004090](https://seqco.de/sci/0004090) ^{Is}

Description

Etymology. It is named 'thermolimna' after the Greek words 'thermo' meaning heat or warm, and 'limna', referring to a lake or standing water.

Bried description. *Planktophila thermolimna* MRE-226 (ENA accession number GCA_965267965) was isolated from the epilimnion (0.5m depth) of Římov Reservoir, Czech Republic (date: 2021-11-01) and it is the only isolated representative of the species. It has a complete circular genome with a size of 1,436,178 bp, a GC content of 48.89%, and a coding density of 96%. It encodes for 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 that the species prefers warm, epilimnetic waters, being present in spring and summer in Římov, Žlutice and Klíčava Reservoirs. The closest isolated relative is *Planktophila calida* RoE-11, with whom shared an average nucleotide identity of 89.53%. 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 thermolimnae*

References

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

Registry URL

<https://seqco.de/i:51474>

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)