

Species *Planktophila polyoliphila*

Etymology

[po.ly.o.li.phi'la] **N.L. neut. n.** *polyolum*, polyol, referring to the polyol-specific membrane transporters encoded by this species' genome; **N.L. fem. adj. suff.** *-phila*, loving; **N.L. fem. adj.** *polyoliphila*, a polyol-loving organism

Nomenclatural type

[Genome sc|0004108](https://seqco.de/sc/0004108) ^{Is}

Description

Etymology. It is named 'polyoliphila' from the membrane transporters encoded by the genome of this isolate, specific for polyols.

Brief description. *Planktophila polyoliphila* MRE-193 (ENA accession number GCA_965267955) 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 circular genome of 1,347,427 bp, a GC content of 45% and a coding density of 96.16%. It encodes one rRNA operon and 40 tRNA genes. It encodes for both actinorhodopsin and heliorhodopsin, but it lacks the last gene involved in the biosynthesis of retinal, the *bhl* gene. It encodes membrane transporters for erythriol. It is a relatively abundant and widespread species, encountered in rives, reservoirs and lakes, including the Žlutice, Římov and Klíčava Reservoirs (Czech Republic), Lake Bissett (Canada), Lake Michigan (USA), Torrens River (Australia) etc. The closest cultivated relative to this species is *Planktophila limneticus* MMS-VB-114, sharing an average nucleotide identity of 81.9%. 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 polyoliphila*

References

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

Registry URL

<https://seqco.de/i:51471>

References

1. Chiriac 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)