

Species *Planktophila maxigenoma*

Etymology

[ma.xi.ge.no'ma] **N.L. fem. adj.** *maxigenoma*, an arbitrarily formed name due to its genome size – it has the biggest genome of any *Planktophila* isolates at time of isolation

Nomenclatural type

[Genome sc|0004110](#) ^{Is}

Description

Etymology. It is named 'maxigenoma' due to its genome size – it has the biggest genome of any *Planktophila* isolates.

Brief description. *Planktophila maxigenoma* MRE-196 (ENA accession number GCA_965267625) 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 1,500,077 bp, a GC content of 48.7%, and a coding density of 95.73%. It encodes one rRNA operon and 38 tRNA genes. It encodes for both actinorhodopsin and heliorhodopsin, as well as the capacity to *de novo* synthesize retinal. It encodes genes involved in pili assembly and maturation. The closest isolated species is *Planktophila jirickensis* JirE-27 with whom it shares an average nucleotide identity of 80.3%. Recruitment analysis showed that it is a very rare species, encountered only in the Římov Reservoir, and particularly in the hypolimnion (30m depth). 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 maxigenoma*

References

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

Registry URL

<https://seqco.de/i:51472>

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)