

Species *Limnohabitans simekii*

Etymology

[si.me.ki'i] **N.L. masc. gen. n.** *simekii*, From Simek, named after the Czech scientist Karel Šimek, who first recognized the importance of the genus *Limnohabitans* and was involved in the description of the genus.

Nomenclatural type

[NCBI Assembly: GCA_965234735.1](#) ^{Ts}

Reference Strain

[Strain sc|0038785](#): MiE-M12

Description

Type strain is *Limnohabitans simekii* MiE-M12 (GCA_965234735.1), isolated from 5 m depth from Lake Milada, Czechia (date: 2019-04-16), *via* high-throughput dilution to extinction cultivation. MiE-M12 has a genome size of 2.7 Mbp with a genomic GC content of 55.8 %, contains 3 rRNA genes and 37 tRNAs. The genome is a high-quality draft consisting of 9 contigs. The genome contains genes encoding anoxygenic aerobic phototrophy (*pufABLM*) and the complete Calvin cycle for carbon fixation via RuBisCO. Genes for flagellar and pilus assembly were annotated. Pathways for urea degradation, thiosulfate oxidation (Sox pathway), glycolate oxidation, and the biosynthesis of all amino acids were predicted. Further, pathways for thiamine, riboflavin, coenzyme A, biotin, THF, and heme biosynthesis were identified. The closest cultivated relative is *Limnohabitans* sp. Jir61 (GCF_003063545.1) with an average amino acid identity of 66.2% and average nucleotide identity of 72.6%. Current GTDB classification (R220): d__Bacteria; p__Pseudomonadota; c__Gammaproteobacteria; o__Burkholderiales; f__Burkholderiaceae_B; g__Limnohabitans; s__Limnohabitans sp937891045.

Classification

Bacteria » *Pseudomonadota* » *Betaproteobacteria* » *Burkholderiales* » *Comamonadaceae* » *Limnohabitans* » *Limnohabitans simekii*

References

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

Registry URL

<https://seqco.de/i:44274>

References

1. Salcher et al. (2025). Bringing the uncultivated microbial majority of freshwater ecosystems into culture. *Nature Communications*. [DOI:10.1038/s41467-025-63266-9](https://doi.org/10.1038/s41467-025-63266-9)