Species *Acidimicrobilacustris europaeus*[Ts]

Etymology
[e.u.ro.pae'us] **N.L. masc. adj.** *europaeus*, of/from Europe; named after the main occurrence in european lakes

Nomenclatural type
NCBI Assembly: GCA_965194515.1 [Ts]

Reference Strain
Strain sc|0040562: KE-4

Description
Type strain is *Acidimicrobilacustris europaeus* KE-4 (GCA_965194515.1), isolated from 5 m depth from Klíčava Reservoir, Czechia (date: 2019-04-25), *via* high-throughput dilution to extinction cultivation. KE-4 has a genome size of 2.35 Mbp with a genomic GC content of 58.2%, contains 3 rRNA genes and 44 tRNAs. The genome is complete, consisting of a circular chromosome. The genome contains genes encoding rhodopsins but lacks the biosynthetic pathway for retinal biosynthesis. No genes for flagella or pilus assembly and chemotaxis were annotated. Pathways for taurine degradation, assimilatory sulfate reduction and methane/alkanesulfonate oxidation and biosynthesis for all amino acids except histidine and threonine were predicted. Further, pathways for riboflavin, pyridoxal, NAD, coenzyme A, biotin and heme were identified. The closest cultivated relatives are *Rhabdothermincola salaria* (GCF_021246445.1) with an average amino acid identity of 64.98% and an average nucleotide identity of 69.8% and another newly proposed species, *Acidimicrobilacustris thunensis* TE-7 (GCA_965194345.1), with an AAI of 73.1% and an ANI of 72%. Current GTDB classification (R220): d__Bacteria; p__Actinomycetota; c__Acidimicrobiia; o__Acidimicrobiales; f__UBA8139; g__F1-20-MAGs160; s__F1-20-MAGs160 sp903827085.

Classification
Bacteria » *Actinomycetota* » *Acidimicrobiia* » *Acidimicrobiales* » *Acidimicrobilacustridaceae* » *Acidimicrobilacustris* » *Acidimicrobilacustris europaeus*[Ts]

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

Registry URL
https://seqco.de/i:48713

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