

Genus *Wolframiiaptor*

Etymology

[Wolf.ra.mi.i.rap'tor] N.L. neut. n. *wolframium*, tungsten; L. masc. n. *raptor*, snatcher or thief; N.L. masc. n. *Wolframiiaptor*, snatcher of tungsten

Nomenclatural type

Species *Wolframiiaptor gerlachensis*^{Ts}

Description

Members of this genus have been identified from geothermal springs from the U.S. Great Basin, Yellowstone National Park, USA, and the Rehai and Ruidian geothermal fields, Tengchong, China. AAI values among genomes representing separate species within the genus range between 81 and 90 %. Based on ancestral state reconstruction analysis, likely losses of the genes encoding cytochrome C oxidase subunits, the aerobic carbon-monoxide dehydrogenase large subunit, and sulfide:quinone oxidoreductase (Sqr), indicate that members of this genus are likely strict anaerobes, and are also incapable of sulfide-dependent respiration. Genomes of this genus encode a *tupA* subunit of the tungstate (Tup) ABC transporter, and contain several genes encoding for tungsten-dependent oxidoreductases, including three putative AOR-like, one FOR-like and one GAPOR-like proteins. This taxon is supported as a genus-level group by phylogenomics, AAI and RED.

Classification

Incertae sedis (Archaea) » “Caldarchaeales” » *Wolframiiaptoraceae* » *Wolframiiaptor*

References

Proposed: Buessecker et al., 2022

Registry URL

<https://seqco.de/i:22817>

References

1. Buessecker et al. (2022). An essential role for tungsten in the ecology and evolution of a previously uncultivated lineage of anaerobic, thermophilic Archaea. *Nature Communications*. DOI:10.1038/s41467-022-31452-8