Species *Geocrenenecus huangii*

Etymology

[huang'i.i] **N.L. gen. n.** *huangii*, of Huang, named for the Chinese microbiologist, Prof. Li Huang (1958-), for his contributions to the study of virus ecology and taxonomic classification in hot springs

Nomenclatural type

NCBI Assembly: GCA_023254095.1 [Ts]

Description

Twelve MAGs for this organism were recovered from metagenomes of thermal springs in the Rehai and Ruidian geothermal fields, Tengchong, Yunnan, China. The binned MAGs ranged between 1,361,286 bp and 1,697,407 bp, in 21 to 174 contigs, with a G+C content of 40.5 to 40.7 %. Genome completeness estimates were between 91.3 and 98.1 %, with contamination estimated at 0.97 to 1.46 % based on CheckM. Robust phylogenomic analysis based on 122 archaeal markers places this taxon in the genus *Geocrenenecus*, in the family *Wolframiiraptoraceae*. Intraspecific ANI values all range between 99.3 and 100 %, while all other comparisons to other members within the genus range between 75 and 90 %. Like other members of the genus, several AORs were identified in the genomes of this species, with a GAPOR-like encoding gene in all members of the species. The presence of genes encoding some cytochrome C oxidase subunits (*coxA/B*), cytochrome bd ubiquinol oxidase subunit I (*cydA*), and the aerobic carbon-monoxide dehydrogenase large subunit (*coxL*), suggest that members of this species may be capable of aerobic respiration.

Classification

Incertae sedis (Archaea) » “Caldarchaeales” » *Wolframiiraptoraceae* » *Geocrenenecus* » *Geocrenenecus huangii*

References

Effective publication: Buessecker et al., 2022 [1]

Registry URL

https://seqco.de/i:22825

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