Species *Pampinifervens diazotrophicum*[Ts]

Etymology
[di.a.zo.tro.phi'cum] **N.L. pref.** *diazo-*, pertaining to dinitrogen; **N.L. neut. adj.** *trophicum*, feeding from Gr. masc. adj. trophikos; **N.L. neut. adj.** *diazotrophicum*, feeding on dinitrogen

Nomenclatural type
INSDC Nucleotide: CP117180.1 [Ts]

Reference Strain
Strain sc|0040531: T-2 = JCM 35475 = DSM 116324

Description
In addition to characteristics described for the genus, chemolithoautotrophic growth was observed using S0 as electron donor. Growth occurs in the absence of organic nitrogen sources, suggesting successful fixation of atmospheric dinitrogen. Growth occurs at 60-80 °C with an optimum at 70 °C, at pH 6.0-9.5 with an optimum at 8.5, at 0.2-10% oxygen with an optimum at 4%, and at sodium chloride concentrations ≤ 300 mM. Cells were 1.9-2.6 µm in length, and 0.3-0.5 µm in width, occurring singly. Colonies that are 0.5 mm in diameter, round, and entire in shape, and cream in color form after 7 days incubation under chemoautotrophic conditions. Major fatty acids are C20:1ω9c, C20:1ω7c, C18:0 and C20:0, while minor fatty acids include C16:0, C18:1ω7c and summed feature 8. Genomic G+C content of the type strain is 43.22%. Genealogical concordance and ANI support the novelty of this species, and phylogenomics and AAI places this species in the genus *Pampinifervens* gen. nov. The nomenclatural type for the species is the genome of strain T-2 (= JCM 35475=DSM 116324) from a white streamer community in Gumingquan (Drum Beating Spring) in the Rehai Geothermal Field, Tengchong County, China. The GenBank accession number for the complete genome of strain T-2 is CP117180 (BioProject: PRJNA659730, BioSample: SAMN15924605).

Classification
Bacteria » *Aquificota* » *Aquificia* » *Aquificales* » *Aquificaceae* » *Pampinifervens* » *Pampinifervens diazotrophicum*[Ts]

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

Registry URL
https://seqco.de/i:43940

References

1. Palmer et al. (2025). Nitrogen fixation in Pampinifervens, a new species-rich genus of Aquificaceae that inhabits a wide pH range in terrestrial hot springs. *Systematic and Applied Microbiology*. DOI:10.1016/j.syapm.2025.126644